

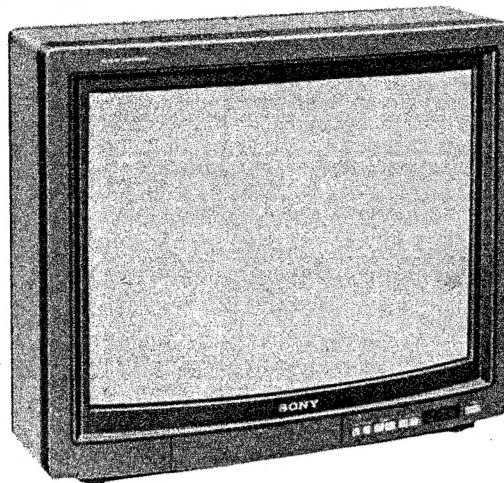
KV-25XBR

RM-724/APM-X3U

SERVICE MANUAL

US Model

Chassis No. SCC-595B-A



P2B CHASSIS

December, 1984

SPECIFICATIONS

Television system	American TV standards	Outputs	TV OUT (AV jack) Video: 1 Vp-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 5 kilohms)
Channel coverage	VHF: 2-13 UHF: 14-69 Cable TV: 1-125		MONITOR OUTPUT (phono jack) Video: 1 Vp-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 5 kilohms)
Picture tube	Microblack Trinitron 25-inch picture measured diagonally 114-degree deflection		CONTROL OUT (minijack) 5V p-p PHONES (stereo minijack) Accepts 8-ohm headphones
Antenna	75-ohm external antenna terminal for VHF/UHF/CATV		SPEAKER Accepts speakers of 8 ohms TO CONVERTER terminal
Inputs	VIDEO 1, 3 INPUT (phono jacks) Video: 1 V p-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 47 kilohms) VIDEO 2 IN AV (AV jack) Video: 1 Vp-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 47 kilohms) RGB MULTI INPUT (See next page.) CONTROL IN (minijack) 5V p-p 75-ohm external antenna terminal for VHF/UHF/CATV AUX 75-ohm auxiliary antenna terminal FROM TV STAND connector for the optional SU-171 TV stand	Power requirements 120V AC, 60 Hz Power consumption 185 W (max.) 1.5 W (in standby condition) Dimensions 635 × 547 × 478 mm (25 × 21 $\frac{5}{8}$ × 18 $\frac{7}{8}$ inches) without speakers 700 × 547 × 478 mm (27 $\frac{5}{8}$ × 21 $\frac{5}{8}$ × 18 $\frac{7}{8}$ inches) including speakers Weight (without speakers) 45 kg (99lb 4oz)	

— Continued on page 2 —



TRINITRON® COLOR TV
SONY®

CTV

3652

RGB MULTI INPUT (34-pin plug)

Pin No.	Signal assignment
1	+5 V power supply
2	+5 V power supply
3	Audio (R) input ground
4	Ground
5	Remote control ground
6	Composite video output ground
7	Audio (L) input ground
8*, 9*, 10*	Ground
11	Ground
12*, 13*	Ground
15*	Ground
16	Ground
20	Audio (R) input
21	Mode select
23	Composite video output
24	Audio(L) input
25	Red input
26	Green input
27	Blue input
29*	Blanking input
30*	H. sync or composite sync
31*	V. sync
33	RGB/NORMAL mode select
34	Audio select
14, 17, 18, 19, 22, 28, 32	Not in use

* For No. 8 and 25, 9 and 26, 10 and 27, 12 and 29, 13 and 30, or 15 and 31 connections, use a twisted-pair lead.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!


COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

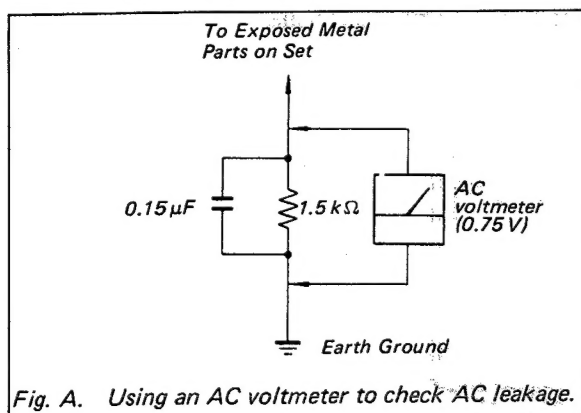
TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. OUTLINE			5-4. Printed Wiring Boards		
1-1.	Location of Controls	6	D Board	55	
1-2.	Set-up	7	A Board	57	
1-3.	Presetting Channels	10	GA Board	58	
1-4.	Applications with Other Optional Equipment	11	GB Board	58	
1-5.	Connections	12	X Board	59	
2. DISASSEMBLY			U Board	60	
2-1.	Back Cover Removal	13	T ₁ Board	62	
2-2.	Picture Tube Removal	13	T ₂ Board	62	
3. SETUP ADJUSTMENTS			T ₄ Board	62	
3-1.	Beam Landing	14	XA Board	62	
3-2.	Convergence	15	Z Board	62	
3-3.	White Balance	18	N Board	62	
3-4.	Focus Adjustment	18	P Board	63	
4. CIRCUIT ADJUSTMENTS			M Board	63	
4-1.	A Board Adjustment	19	C Board	64	
4-2.	X Board Adjustment	23	5-5. Semiconductors	65	
4-3.	D Board Adjustment	27	6. EXPLODED VIEWS		
5. DIAGRAMS			6-1.	Back Cover	66
5-1.	Circuit Boards Location	31	6-2.	CRT	67
5-2.	Block Diagram	32	6-3.	Chassis	68
5-3.	Schematic Diagram	40	7. ELECTRICAL PARTS LIST	69	
			RM-724 REMOTE COMMANDER	91	
			APM-X3U SPEAKER SYSTEM	97	

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



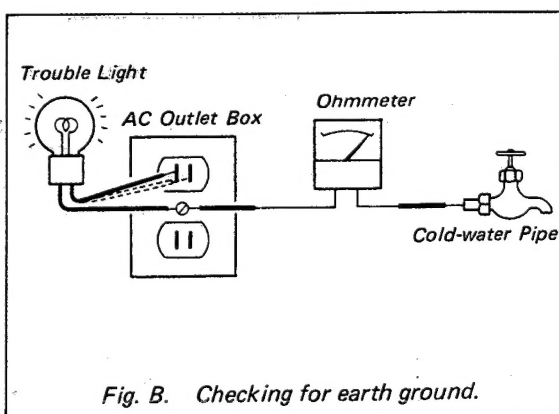
LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



SECTION 1 OUTLINE

1-1. LOCATION OF CONTROLS

For details on the use of each control, refer to the pages indicated in brackets.

See page 10 for the location of jacks and controls on the back.

Front

On screen display for the following:

- Channel numbers
- "MAIN", "SAP" or "BOTH" modes
- The selected input sources, "VIDEO 1, 2 or 3", "EXT-A" or "RGB"
- The "AUX", "MUTING" or "SLEEP" indicators.

Item display

The selected item to be adjusted by the ADJUSTMENT buttons or the "TRINITONE" and "RESET" indicators will appear here.

Adjustment display

Indicates level of the various adjustments made to the picture and sound.

VIDEO lamp

SLEEP lamp

POWER switch

Remote control detector

STEREO lamp

RGB lamp

CHANNEL scan buttons

VOLUME buttons

TV/VIDEO button

RGB button

Press to open the panel.

PHONES (headphones) jack (stereo mini-type)

VIDEO 2 IN (input) AV unconnector

TV OUT (output) AV jack

CABLE ON/OFF button

ERASE button

ADD button

ANT/AUX button

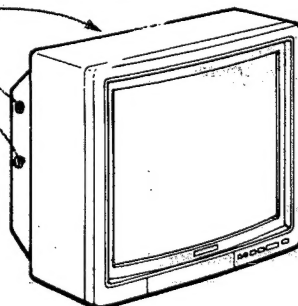
MTS (Multichannel TV sound) button

AUTO STEREO selector

ADJUSTMENT buttons

PICTURE buttons

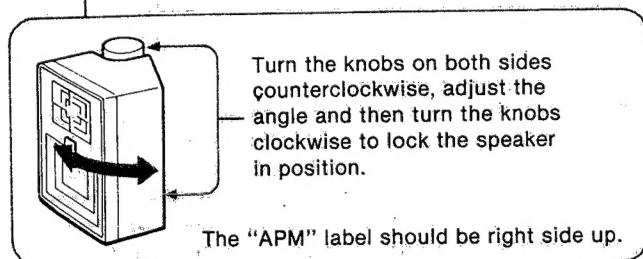
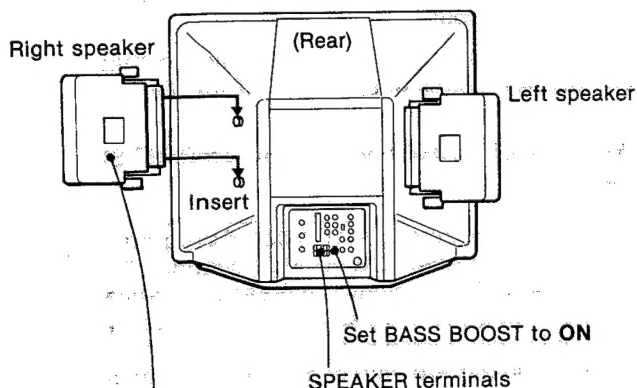
Projections for attaching speakers.



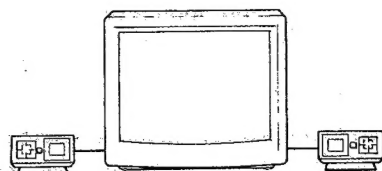
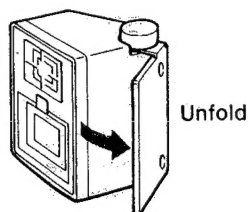
1-2. SET-UP SPEAKERS

Placement

Attaching the speakers to the TV



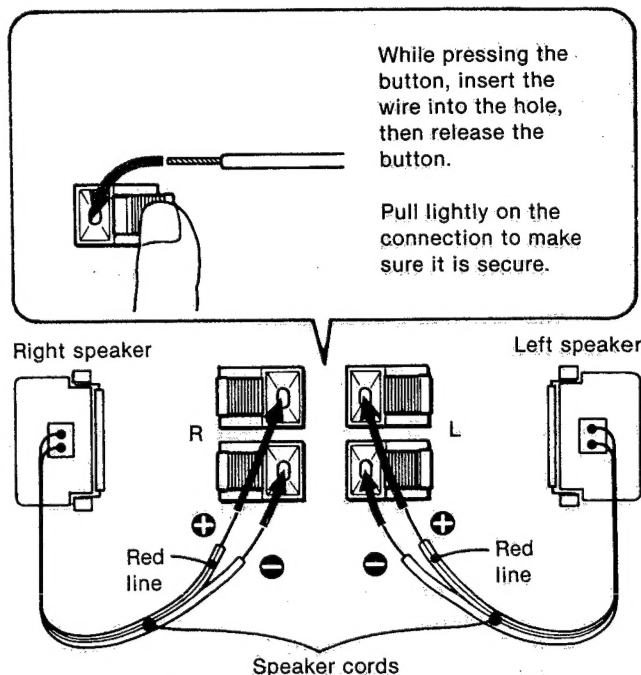
If desired, the speakers can be placed separately from the TV by unfolding the stand.



- Adjust the angle of the speakers, for best sound production.

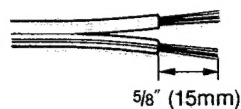
Connection

The speaker cord marked with a red line should be connected to the \oplus (red) terminal and the cord unmarked to the \ominus (black) terminal for correct in-phase operation.



If desired, larger 8-ohm speakers can be used as long as they are rated at 8-ohm impedance.

Expose and twist the wire ends of the cords of your speakers as illustrated below, and make the correct \oplus \ominus connections. For large speakers, set BASS BOOST switch on the TV to "OFF" to prevent excessive bass.



Strip about $\frac{5}{8}$ " (15mm) of the wire insulation from the ends...



and then twist the wire ends.

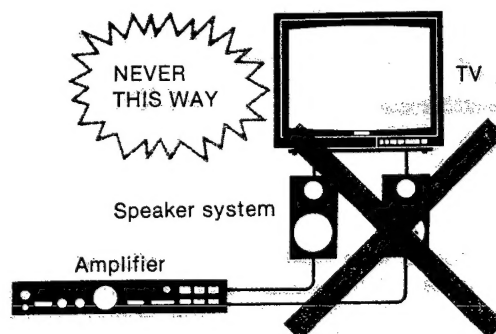
Caution

- Be sure to use speakers that are rated at 8-ohm impedance with normal power holding capacity of more than 7W for the KV-20XBR and of more than 10W for the KV-25XBR.

- Make sure that none of the wire strands stick out, making contact with the neighboring speaker terminals.
- If you have connected a pair of speakers other than the supplied speakers, make sure to place the TV set at a distance away from the speakers so that it will not be affected by the speaker magnets. If a temporary proximity to magnets should cause portions of the picture to have poor color, turn the POWER off, and after about 10 minutes, turn it on again.

Speakers with low magnetic flux leakage such as the SS-X1A, SS-X2A, and SS-X10A speaker systems (optional) may be placed near the set.

- Never connect an amplifier and this TV simultaneously to the speakers as this may damage the TV.



Preparation


Make sure the following are properly set.

- On-screen "VIDEO 1, 2 or 3", "EXT-A" or "RGB"* indicators and the RGB or VIDEO lamp should be off. (Press TV/VIDEO button or RGB button as many times as necessary until they go out.)

- AUTO STEREO selector should be set to ON (depressed).

Depending on the channel to be viewed, check the following and change as necessary.

- CABLE ON/OFF button

For VHF and UHF channels, set to OFF .

For cable TV channels, set to ON .

- On-screen "AUX"* indicator

(Press ANT/AUX button to change as necessary.)

For VHF, UHF and regular cable TV channels:

The indicator should be off.

For pay cable TV channels:

The indicator should be displayed.

*The displays, "VIDEO" "EXT-A", "RGB" or "AUX" indicate that signals fed in through the VIDEO 1/3 INPUT jacks, VIDEO 2 IN AV uniconnector, the external audio jacks, the RGB MULTI INPUT connector or through the AUX terminals are being received.

1 Press POWER to turn on the TV.

The channel number will be displayed on the screen and the SLEEP lamp will light up for several seconds.

2 Select channels in one of the following two ways.

- Press the numeral(s) of the channel and then press ENTER.

Ex. To select channel 6, press 6 and then ENTER.

To select channel 125, press 1, 2, 5 and then ENTER.

If you pressed a wrong numeral, wait for a few seconds and it will disappear. Then try again.

- Press CH "+" for higher-numbered channels and "-" for lower-numbered channels. Preset channels will appear in sequence. (For presetting desired channels, see page 9.)

The channel display will remain on the screen for a few seconds. To keep the display on the screen, press DISPLAY.

3 Adjust the volume and picture to your preference, if necessary.

Press VOL "+" to increase volume, or "-" to decrease it.

Press PICTURE "+" to increase picture contrast, or "-" to decrease it.



If the picture rolls vertically, turn V HOLD control on the rear panel until the picture stabilizes.



V HOLD

To mute the sound immediately, press MUTING. The "MUTING" display will appear and remain on the screen. Press it again to restore the sound to its previously-set level or press VOLUME +.

To turn off the set, press POWER again.

To have the set turn off automatically after one hour, press SLEEP. The "SLEEP" display will appear on the screen a few seconds and the SLEEP lamp on the TV will remain lit for one hour.

To cancel the sleep timer, press SLEEP again so that the "SLEEP" display disappears, or turn off the TV.

LISTENING TO MULTICHANNEL TV SOUND(MTS) BROADCASTS

In the years to come, an increasing number of programs will be broadcast in stereo. Called Multichannel TV Sound or MTS, the new technology will greatly enhance TV viewing by bringing you programs with high fidelity stereo sound. MTS also provides for an extra channel called the Second Audio Program or SAP which broadcasters can use to transmit a second language for bilingual transmissions or some other sound track.

To receive a stereo program

Normally set the AUTO STEREO selector to ON (depressed). In this position, the STEREO lamp on the TV will light up whenever a stereo broadcast is received.

To listen to the stereo sound, select the MAIN mode with the MTS button so that the on-screen MAIN indicator appears. The stereo sound will be heard from the left and right speakers.

Every push on the MTS button changes the indicator below the channel number as follows:



Select the appropriate mode according to various possible incoming broadcast signals. You can preset the mode while the indicators are yellow so that the selected sound will be heard automatically when the MTS program begins. The indicators turn green when a MTS program is actually being received.

When there is a SAP (Second Audio Program) broadcast

Select the SAP mode so that the SAP indicator will be displayed and only the SAP sound will be heard from both speakers.

To listen to both MAIN and SAP broadcasts

Select the BOTH mode so that the BOTH indicator is displayed. The MAIN and SAP sounds will come out from the left and right speakers respectively.

The MAIN sound becomes monaural(mixed) even if it is a stereo broadcast, as the sound comes only from the left speaker.

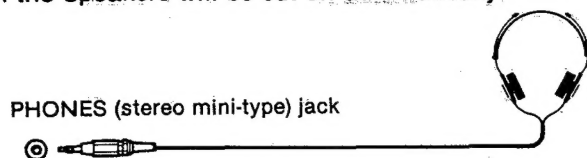
Notes

- The selected mode will be retained even after the power has once been turned off.

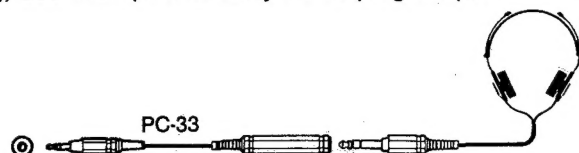
- There may be cases of stereo broadcasts where excessive "noise" will be heard due to a weak incoming signal. By switching the AUTO STEREO selector to OFF and returning to a monaural mode, the noise should be eliminated.

Use of headphones

For private listening of sound, connect a pair of 8-ohm headphones (optional) to the PHONES jack. The sound from the speakers will be cut off automatically.



If the plug of your headphones is a stereo phone-type plug, use the optional Sony PC-33 plug adaptor.



An earphone can also be connected to listen to the monaural (left channel) sound.

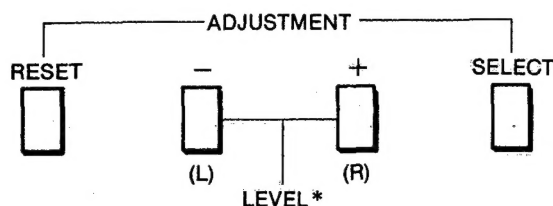
ADDITIONAL PICTURE AND SOUND ADJUSTMENTS

(Hue: Color: Brightness: Sharpness: Treble: Bass: Balance)

Additional picture and sound adjustments besides the adjustments made by the PICTURE and VOL (volume) buttons can be made as follows although your TV comes with its picture and sound preset at the factory for optimum performance.

The adjustments made can be cleared and the factory preset levels will be restored at once when the **RESET** button is pressed. (A "RESET" indicator will appear for a few seconds.)

Controls are inside the front panel.



*"LEVEL" is printed above the buttons on the KV-20XBR.

- 1 Press **SELECT** button consecutively until the on-screen display of the item you desire to adjust appears.

The display will change as follows:

HUE → COLOR → BRIGHT → SHARP → TREBLE →
BASS → BALANCE → back to HUE

The display will disappear after a few seconds but will appear again when the next step is taken.

- 2 Press **LEVEL** **+(R)/-(L)** button to adjust the selected item.

	Selected item	-(L) Left button	+(R) button
PICTURE ADJUSTMENT	HUE	Skin tones become purplish	Skin tones become greenish
	COLOR	For less color intensity	For more color intensity
	BRIGHT	For less brightness	For more brightness
	SHARP	For less sharpness	For more sharpness
SOUND ADJUSTMENT	TREBLE	To decrease treble response	To increase treble response
	BASS	To decrease bass response	To increase bass response
	BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

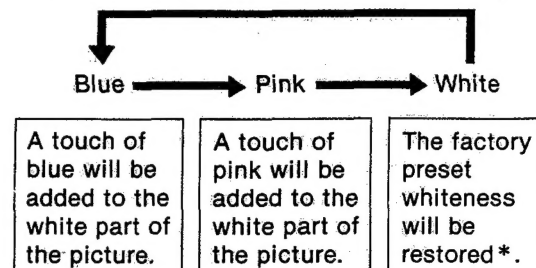
On-screen color-bar displays

When any of the above adjustments are made, a colored segmented bar appears on the screen to indicate the appropriate setting level.

- The HUE setting is indicated by the ratio of the red (left) and green (right) segments.
- The COLOR level is indicated by the number of red segments.
- The BRIGHT, SHARP, TREBLE and BASS levels are indicated by the number of green segments.
- The stereo BALANCE is indicated by the ratio of the green (left) and red (right) segments.
- While the VOL or PICTURE button is pressed, the number of green segments show the sound or picture level.

TRINITONE adjustment

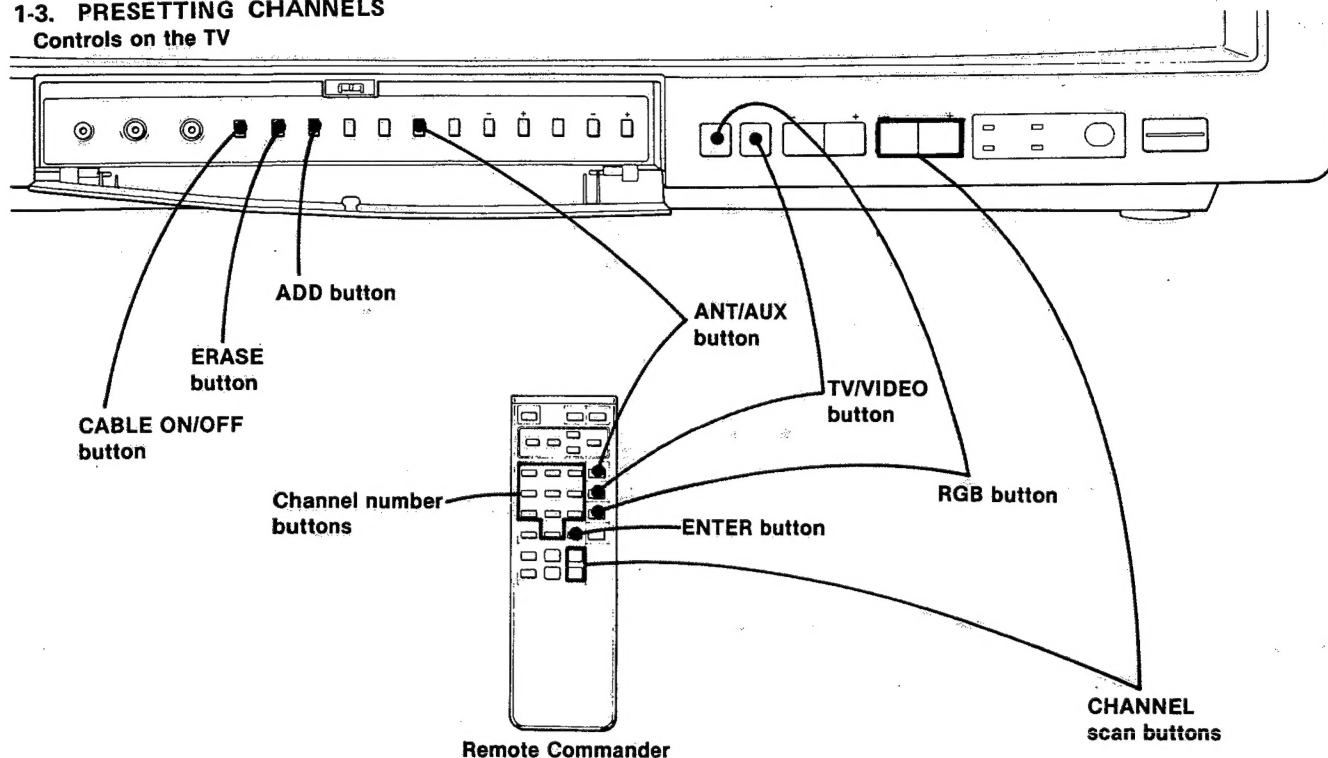
Usually color picture tubes are manufactured with a fixed color temperature (tint) that determines the "warmness (reddish)" or "coolness (bluish)" of the picture it produces. With Sony's Trinitone feature, you can adjust the tint of the picture to your own color preference. The adjustment is made using the color white as reference. When you press the TRINITONE button, a "WHITE" indicator will appear on the screen. Each consecutive press of the TRINITONE button will change the color of the indicator as follows:



*The TRINITONE adjustment will return to its factory-preset level at once when the **RESET** button is pressed.

1-3. PRESETTING CHANNELS

Controls on the TV



Receivable channels of your set are:

VHF: 2-13

UHF: 14-69

CATV: 1-125

By adding and erasing channels, you can preset your TV so that only the desired channels appear in sequence when the CHANNEL +/- are pressed.

PREPARATION

1 Turn on TV.

2 Make sure the following are properly set.

On-screen "VIDEO 1, 2 or 3", "EXT-A" or "RGB" indicators and the RGB or VIDEO lamp should be off. (Press TV/VIDEO button or RGB button as necessary until they go out.)

3 According to the channel to be added or erased, check the following and make the necessary changes if any.

● CABLE ON/OFF button

For VHF and UHF channels, set to OFF ☐

For cable TV channels, set to ON ☐

● On-screen "AUX" indicator

(Press ANT/AUX button as necessary.)

For VHF, UHF and regular cable TV channels:

The indicator should be off.

For pay cable TV channels:

The indicator should be displayed.

ADDING CHANNELS

1 Select the channel to be added by pressing the channel number buttons and then ENTER.

2 Press ADD.

A "+" indication will appear on the left of the channel display on the screen, indicating that the channel will appear in the proper numerical sequence when you press CHANNEL +/-.

Repeat steps 1 and 2 for other channels to be added.

ERASING CHANNELS

1 Select the channel to be erased.

2 Press ERASE.

A "-" indication will appear on the left of the channel display on the screen, indicating that the channel has been erased. When CHANNEL +/- are pressed, you will see that the channel is skipped over in the numerical sequence.

Repeat steps 1 and 2 for other channels to be erased. To add erased channels again, follow the steps in "ADDING CHANNELS".

Note

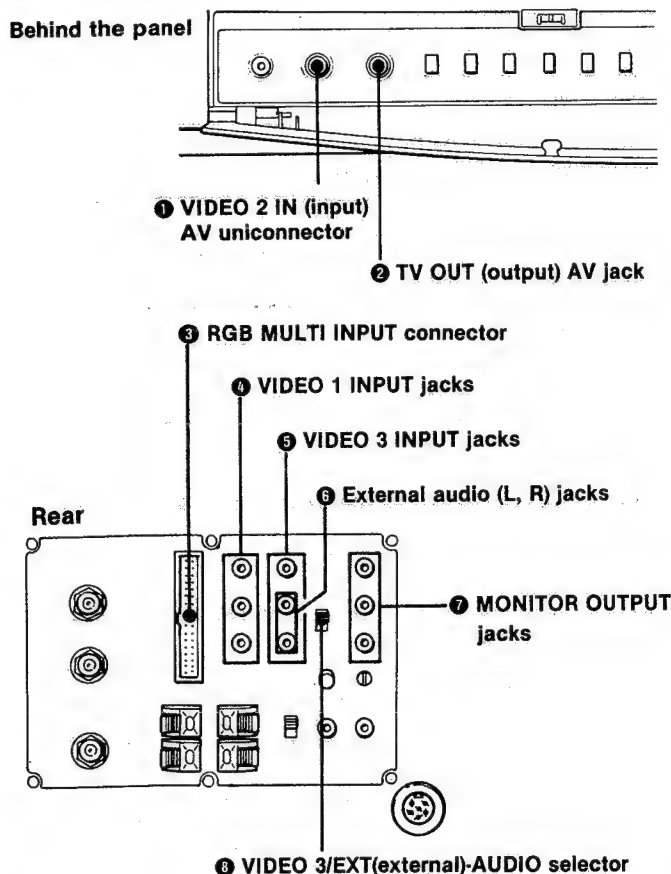
You cannot erase a VHF or UHF channel from the memory and retain a cable TV channel which has the same number, or vice versa. If either a VHF/UHF channel or a cable TV channel with the same number is to be kept in the memory, do not erase the number.

1-4. APPLICATIONS WITH OTHER OPTIONAL EQUIPMENT

This unit is equipped with various input/output jacks and terminals for your desired equipment to be connected.

For details on the various optional connecting cables to be used, see "OPTIONAL AUDIO/VIDEO CONNECTING CABLES" on page 11.

Front



① VIDEO 2 IN (input) AV unconnector (AV jack)

Connect to the video and audio output jacks of a video cassette recorder or microcomputer. Video and audio signals are transmitted simultaneously.

② TV OUT (output) jack (AV jack)

Connect to the video and audio input jacks of a video cassette recorder to record the output of the TV's built-in tuner. The TV tuner output will always be supplied even while other input signals are being viewed on the screen.

To record a TV program while viewing another video source

- 1 Select the TV channel you desire to record.
- 2 Start recording on the VCR.
- 3 Press either TV/VIDEO button or RGB button to select the desired source to be displayed.

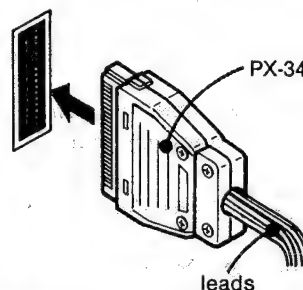
Note

- The TV channel (and therefore the output of this jack) will change if you press the channel number or CHANNEL scan buttons even while the on-screen "RGB" indicator or RGB lamp is lit.
- The TV channel cannot be changed when the on-screen "VIDEO" indicator or VIDEO lamp is lit.

③ RGB MULTI INPUT connector (34-pin jack)

This connector allows direct RGB hook-up to a microcomputer having RGB output.

When connecting the microcomputer, use a connecting cable with a 34-pin plug that will match the RGB output of the equipment to the pin assignment of this connector designated on page 19.



To connect a cable with loose signal leads instead of a plug, use an optional PX-34 RGB multi connector. For details on the arrangement and the connection of the leads, read the instruction manual of the PX-34.

④ VIDEO 1 INPUT jacks

⑤ VIDEO 3 INPUT jacks

Connect to the video and audio output jacks of a VCR*, video disc player, etc.

- VIDEO jack (phono, yellow) → to video output jack
- AUDIO L jack (phono, white) → to audio L (left channel) output jack
- AUDIO R jack (phono, red) → to audio R (right channel) output jack

*You will achieve better picture and sound quality than by connecting the VCR only to the antenna terminal.

⑥ External audio (L/R) jacks

An external audio source can be connected to these jacks to be combined with the picture of the selected TV program. Connect to the audio/line output of the audio source.

To view FM simulcasted programs, see page 16.

⑦ MONITOR OUTPUT jacks (phono type)

Connect to the video and audio input jacks of a video cassette recorder or color monitor. Either the TV or VCR signal selected by the TV/VIDEO button is supplied.

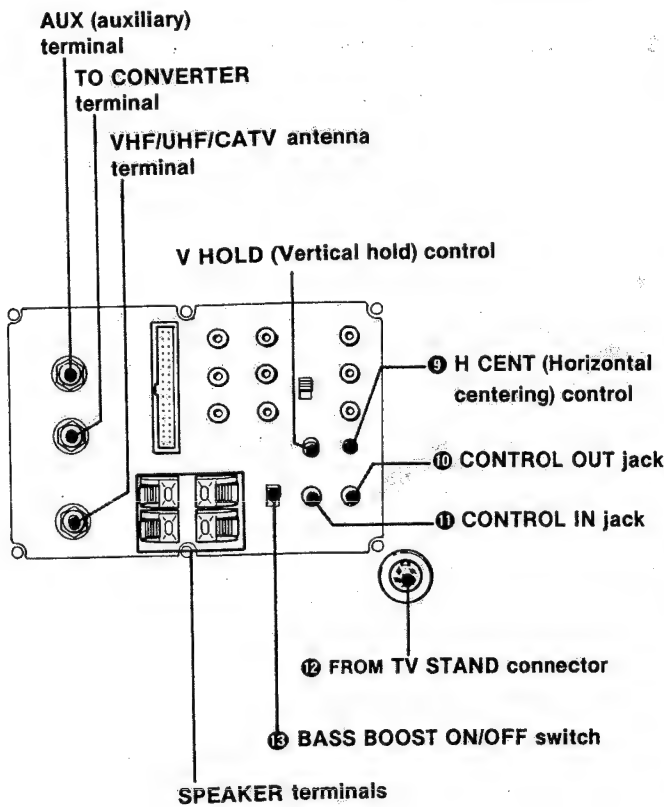
To record only the sound, connect the audio input jacks of a tape recorder to the AUDIO L and R jacks with a connecting cable such as the optional RK-74A.

Note

The RGB signals are not supplied (and therefore will not be recorded on the connected VCR) from these jacks even when the RGB signals are displayed on the screen.

8 VIDEO 3/EXT(external)-AUDIO selector

If you have connected a VCR, video disc player, etc., to the VIDEO 3 INPUT jacks, set to "VIDEO 3". If you desire to mix the sound of the external audio source connected to the 6 External audio jacks with the picture of the TV program, set to "EXT-AUDIO"



9 H CENT (horizontal centering) control

Usually keep this control at the center detent position. If the display of the equipment connected to the 3 RGB MULTI INPUT connector is shifted off center to the left side or right side of the screen, turn this control until the display is centered.

10 11 CONTROL IN/OUT jacks

These jacks are for connecting a future audio or video product also equipped with similar CONTROL IN or OUT jacks for the expansion of your audio-video system.

12 FROM TV STAND connector (6-pin DIN)

Connect the optional SU-171 TV stand which will enable you to turn on and off the power, adjust the volume, and select the channel of this TV with foot pedals.

13 BASS BOOST ON/OFF switch

When the supplied side-mounting speakers are used, set this switch to ON to enhance the bass sound. When a larger speaker system is used, set this switch to OFF to prevent excessive bass.

1-5. CONNECTIONS
OPTIONAL AUDIO/VIDEO CONNECTING CABLES

The optional connecting cables to be used for connecting other equipment depend upon what type of audio and video jacks the equipment you desire to connect has. The following charts will help you choose which cable you should use.

Cables to be connected to the VIDEO 1 and 3 INPUT jacks

The type of audio and video jacks of the equipment to be connected.		Connecting cable to be used
Video (phono-type)	Audio (L, R) (phono-type)	VMC-2P3
Video (phono-type)	Audio (mini-type)	VMC-1MP3 (1 m), -2MP3 (2m)
Video (phono-type)	Audio (phono-type)	VMC-609MS

Cables to be connected to the VIDEO 2 IN and TV OUT (AV type) jacks

The type of audio and video jacks of the equipment to be connected.		Connecting cable to be used
Video (phono-type)	Audio (L, R) (phono-type)	VMC-610S
Video (phono-type)	Audio (phono-type)	VMC-612MS *The PC-21 is supplied to the cable for a mini-type audio input.

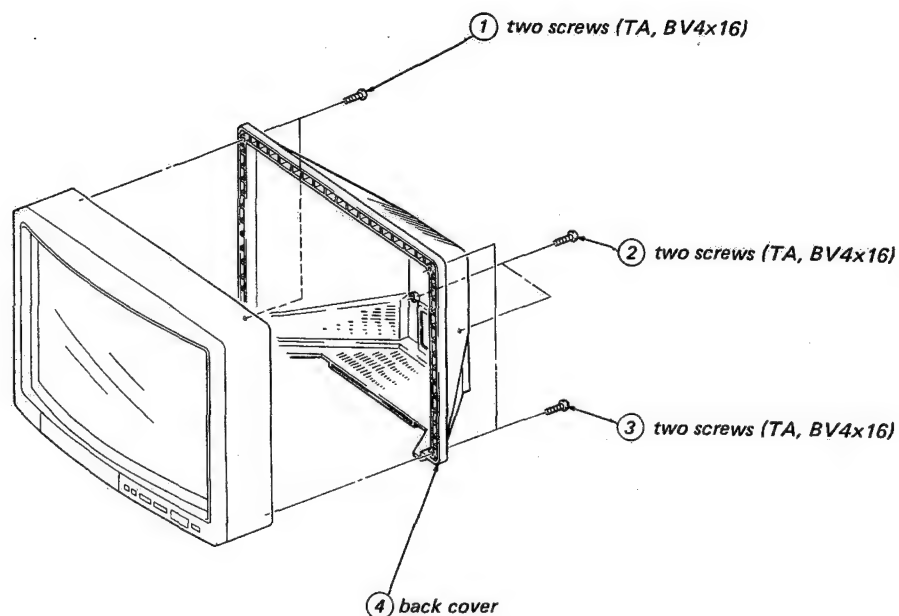
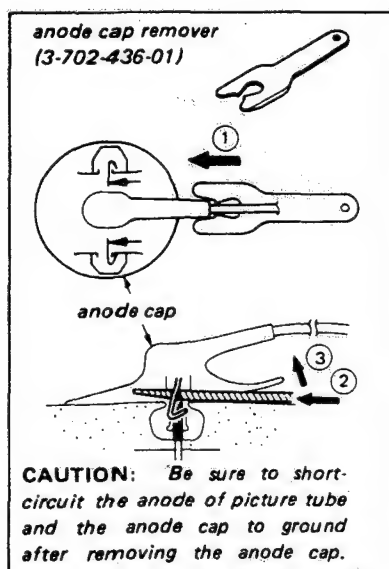
The following are few examples of the possible connections.

NOTES ON CONNECTION

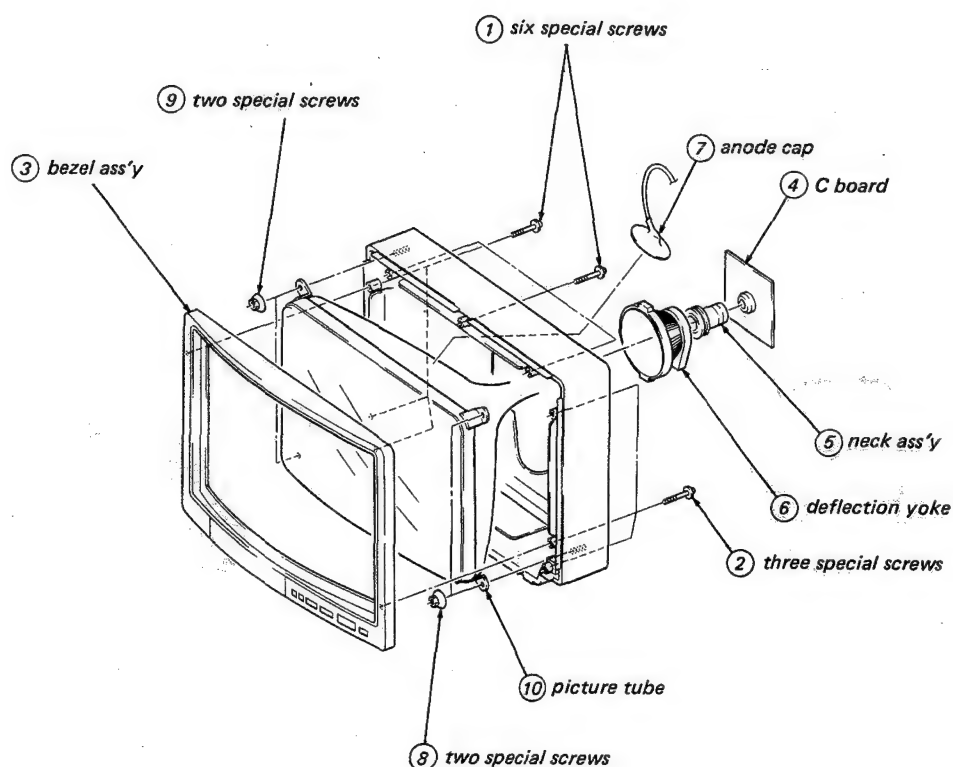
- Before connecting, make sure that the power to each piece of equipment is turned off.
- The plugs should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Match the color when connecting the plugs to the jacks.

SECTION 2 DISASSEMBLY

2-1. BACK COVER REMOVAL



2-2. PICTURE TUBE REMOVAL



SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE controlmaximum

BRIGHT controlmaximum

Perform the adjustments in order as follows:

1. Beam Landing
2. Focus
3. Convergence
4. White Balance

Note: Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

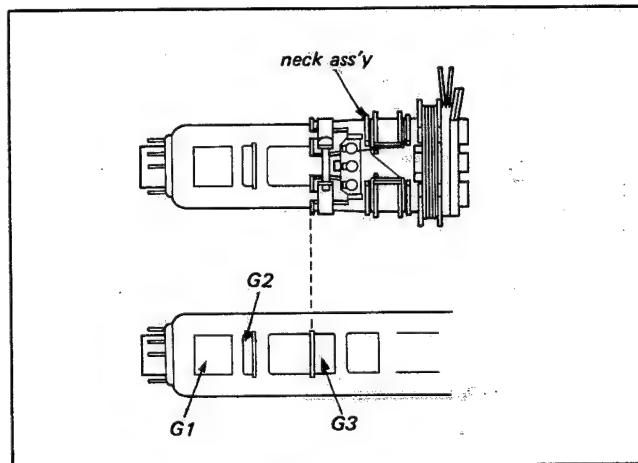


Fig. 2

5. Disconnect leads ⑤ and ⑥ on the C board.
6. Adjust purity control to center vertical red band as shown in Fig. 3.

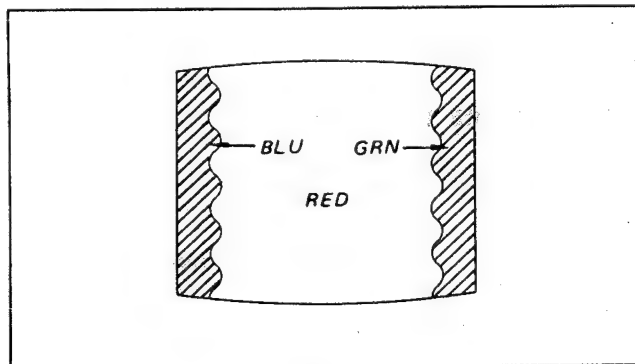


Fig. 3

3-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
 - Before starting, degauss the entire screen.
1. Loosen deflection yoke screw.
 2. Adjust purity control as shown in Fig. 1.

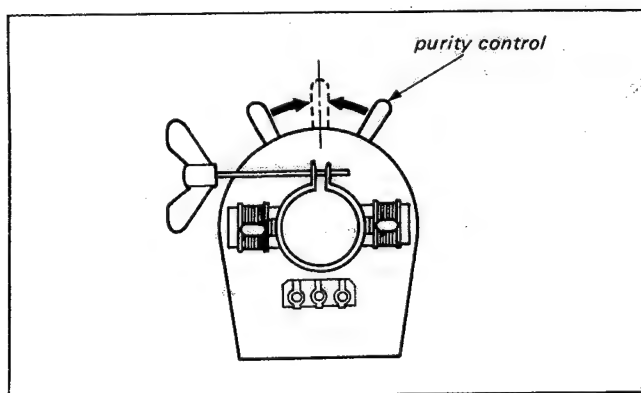
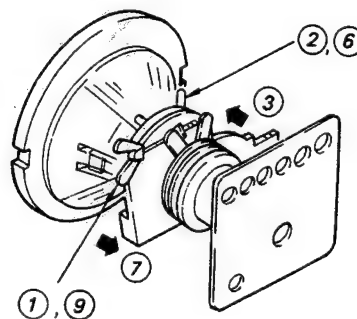


Fig. 1



Note: The circled numbers (1)–(9) show above steps.

3. Slide deflection yoke as far forward as it will go.
4. Position neck protector ass'y as shown in Fig. 2.

7. Slide deflection yoke back for a uniform red screen.
8. Check green and blue rasters for uniformity by performing the same way as steps 5, 6 and 7.
To get a uniform green screen,
connect lead **G** on the C board and
disconnect leads **R** and **B**
To get a uniform blue screen,
connect lead **B** on the C board and
disconnect leads **R** and **G**
After these checks, connect the leads **R**, **G**
and **B**
9. Tighten the deflection yoke screw.
10. Check if mislanding appears at corners a-d as shown in Fig. 4. If mislanding is observed, correct it as shown in Fig. 4.

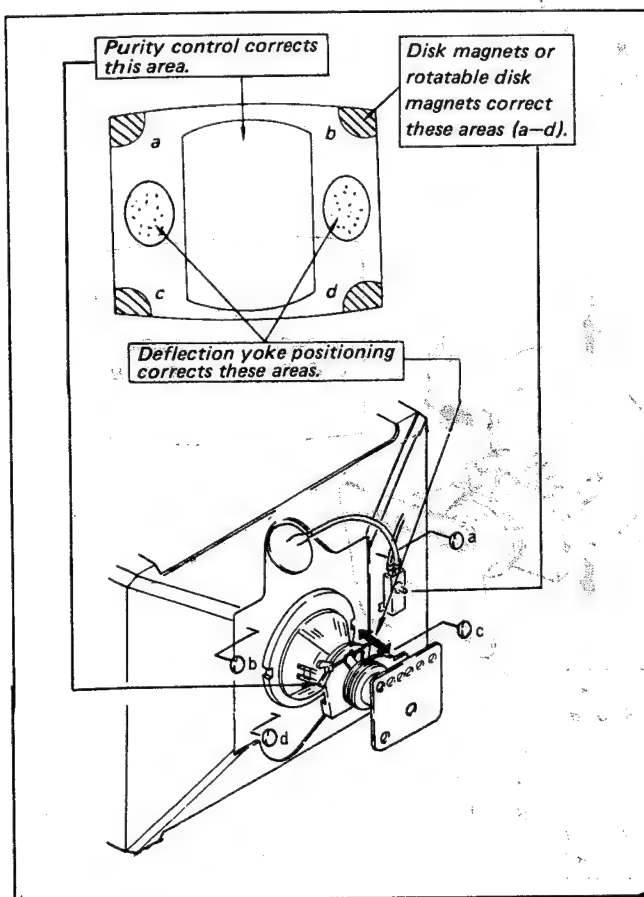


Fig. 4

11. Confirm that beam landing is correct when the receiver is faced in all directions.

3-2. CONVERGENCE

Preparation:

- Before starting, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Set BRIGHT control to fully counterclockwise.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

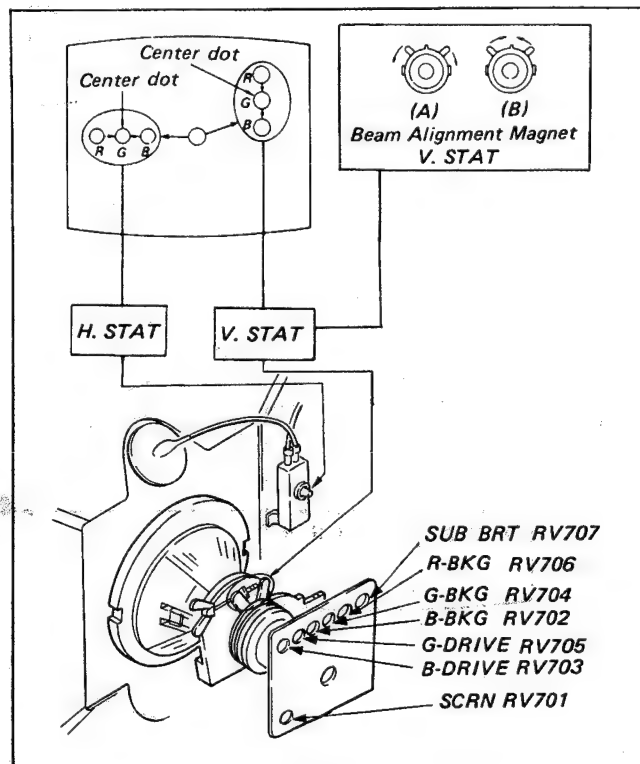


Fig. 5

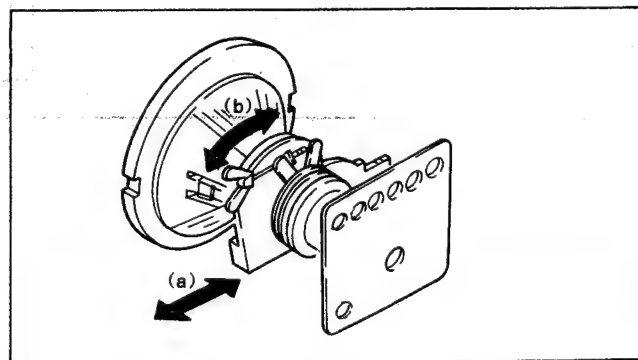


Fig. 6

(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
1. Loosen deflection yoke screw.
 2. Remove deflection yoke spacers.
 3. Move the deflection yoke for best convergence as shown in Fig. 7.
 4. Tighten the deflection yoke screw.
 5. Install the deflection yoke spacers.

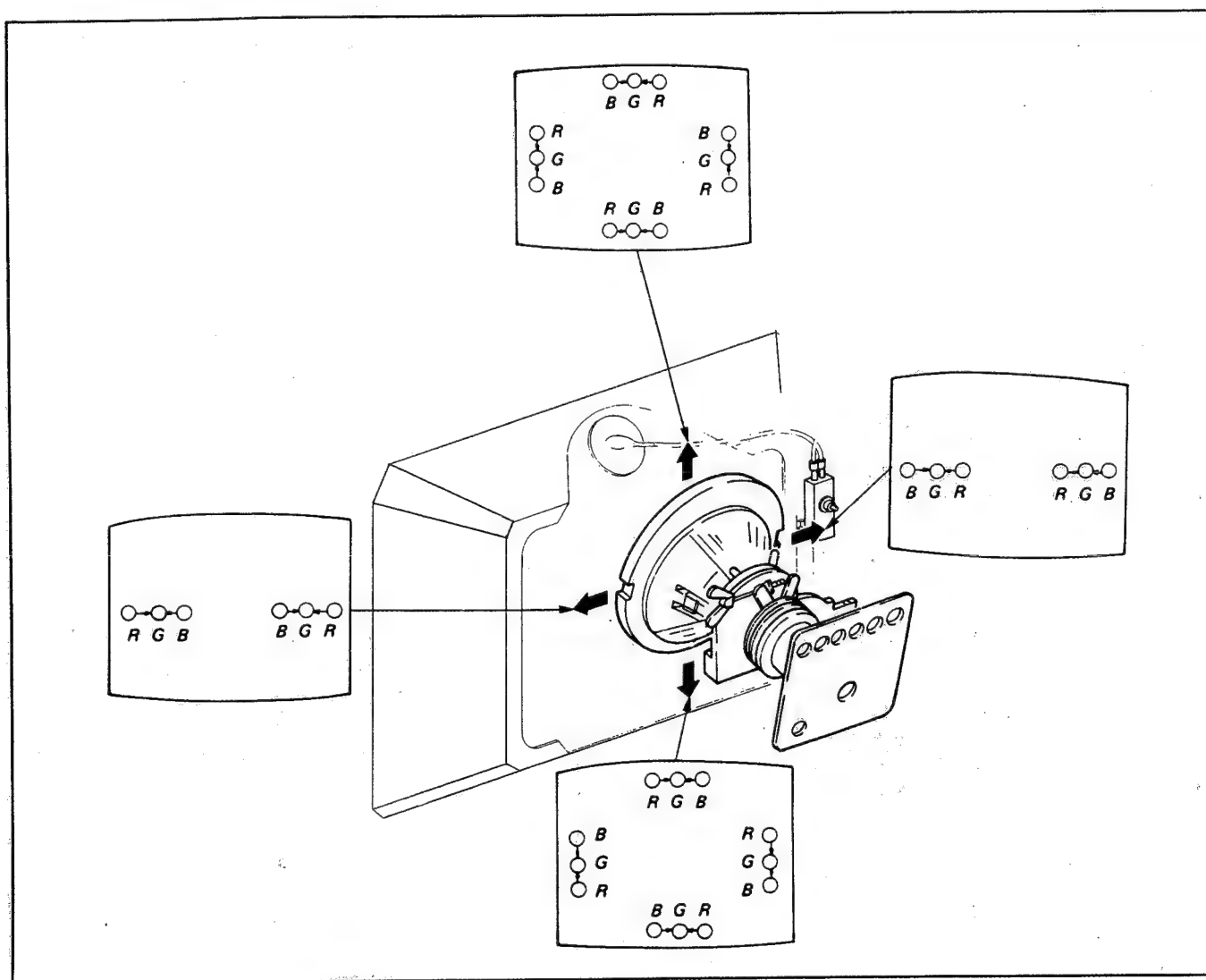


Fig. 7

6. Adjust the Y-CROSS (RV1506) and Y-BOW (RV1507), so that RED and BLUE shown in Fig-8 will become $a=b=c$.

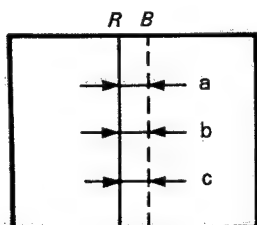


Fig. 8

7. Match the horizontal convergence at the center of the screen with H STAT VR.
8. Adjust the CORNER BOW (RV1508), so that RED and BLUE shown in Fig-9 will become $a=b=c$ and $d=e=f$.

Note: At this point, if the relationship between $a=c$ or $d=f$ is not established, adjust the Y-CROSS (RV1506) again.

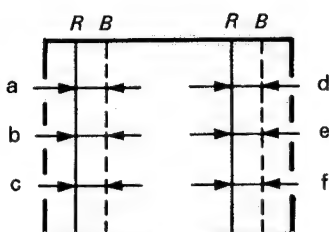


Fig. 9

9. Match the horizontal convergence at the center of the screen with the H STAT VR.
10. Adjust the H TILT (RV1505) so that the RED and BLUE shown in Fig-10 will become $a=b$.

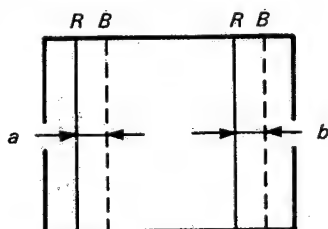


Fig. 10

11. Adjust the H AMP (RV1504) so that the RED and BLUE shown in Fig-11 will become $2=2b$.

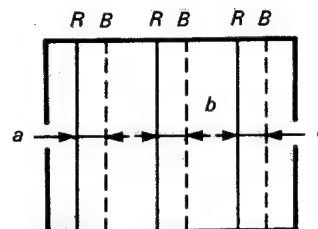


Fig. 11

12. Match the horizontal convergence at the center of the screen with the H STAT VR.
13. When the H AMP is adjusted repeat the procedures described in Steps 10 to 12.
14. If divergence of the convergence exists at the corner of the screen, the adjustments described in Steps after 8 should be repeated.

Y-CROSS (RV1506)
Y-BOW (RV1507)
C-BOW (RV1508)
H-TILT (RV1505)
H-AMP (RV1504)

D board — Parts side —

Fig. 12

(3) Corner Convergence

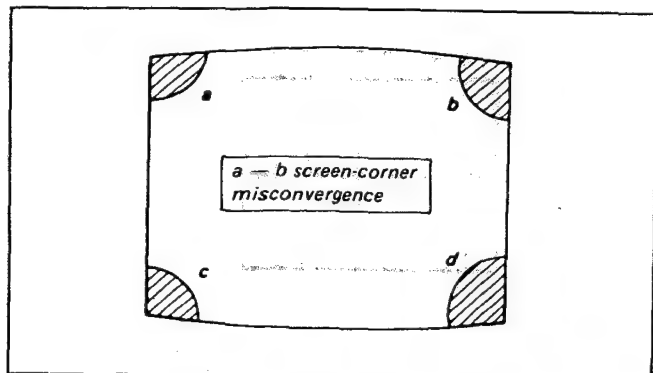


Fig. 13

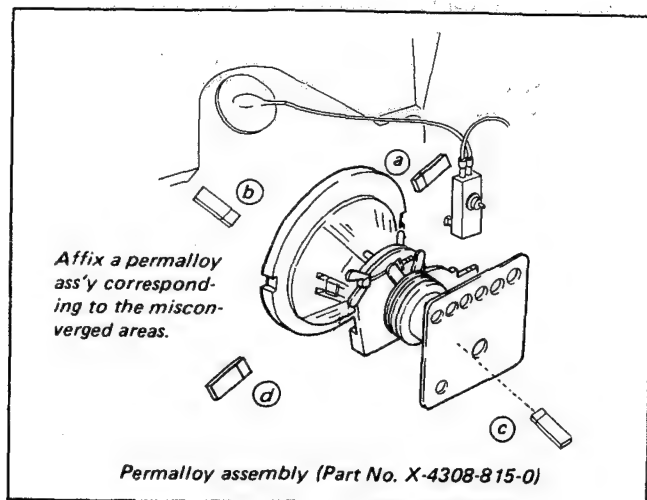


Fig. 14

3-3. WHITE BALANCE

Feed in the cross-hatch pattern.

1. Set the PICTURE and BRIGHT controls to minimum position
2. Turn B. DRIVE and G. DRIVE controls fully clockwise.
3. Set B. BKG, G. BKG and R. BKG controls to mechanical center.
4. Turn SCRN control slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning SCRN control. Do not turn a BKG control for this color.
5. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch.
6. Set the PICTURE and BRIGHTNESS controls to maximum position
Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

3-4. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.

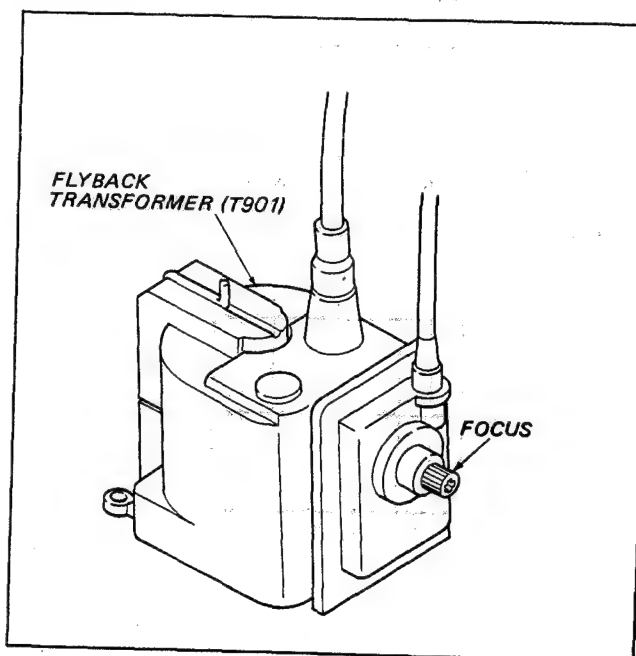


Fig. 15

SECTION 4 CIRCUIT ADJUSTMENTS

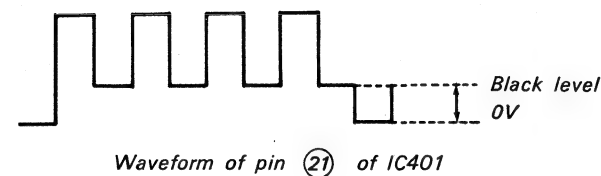
KV-25XBR
RM-724/APM-X3U

KV-25XBR
RM-724/APM-X3U

4-1. A BOARD ADJUSTMENT

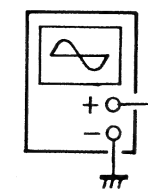
BLACK LEVEL ADJUSTMENT

- (1) Receive color bar signal.
- (2) Set the analog level of the microcomputer to the standard.
- (3) Add 6V DC to pin (6) (SUB BRT terminal) of A-16 connector.
- (4) Adjust the black level volume (RV406) so as to the voltage of pin (12) of IC401 (black level terminal) becomes equal to the black level waveform of Pin (21) of IC401.

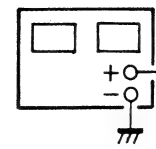


(Caution) The black level of pin (21) waveform of IC401 should be equal to the pedestal level. In addition, the voltage of pin (12) of IC401 should not be higher than that of the black level.

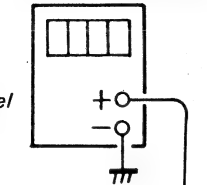
Oscilloscope



DC stabilized power supply



Digital multi-meter



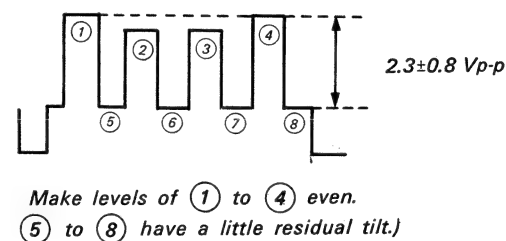
BAR DISPLAY POSITION ADJUSTMENT

- (1) Receive the broadcasting signal.
- (2) Press the picture button so that the received signal becomes maximum.
- (3) At this point, adjust the undisplayed portions of the left and right sides of the bar signal so as to become equal with L102.

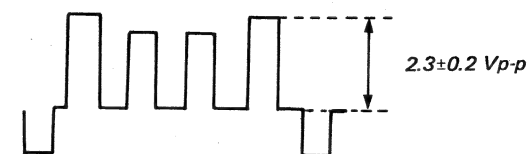
L102
CHR
POSITION

ACC ADJUSTMENT AND HUE ADJUSTMENT

- (1) Receive color bar signal.
- (2) HUE 50% (resetting)
COLOR THICKNESS 50% (resetting)
PICTURE Maximum
- (3) Observe pin (32) of IC301 with an oscilloscope, and adjust the output waveform so as to become that as shown in the diagram by turning the ACC volume (RV304) and Hue volume (RV303).

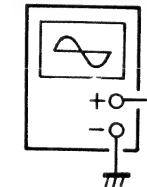


- (4) Confirm that the voltage at the middle point of the ACC volume (RV304) should be less than 9V.
- (5) Confirm that the blue output should be 2.3 ± 0.2 V after adjusted.

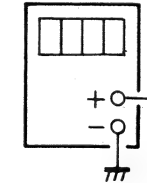


(Caution) Measurement should be performed under the conditions that removing A-16 connector and not applying ABL.

Oscilloscope



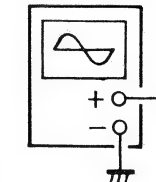
oscilloscope



RF AND AGC ADJUSTMENT (ROUGH ADJUSTMENT)

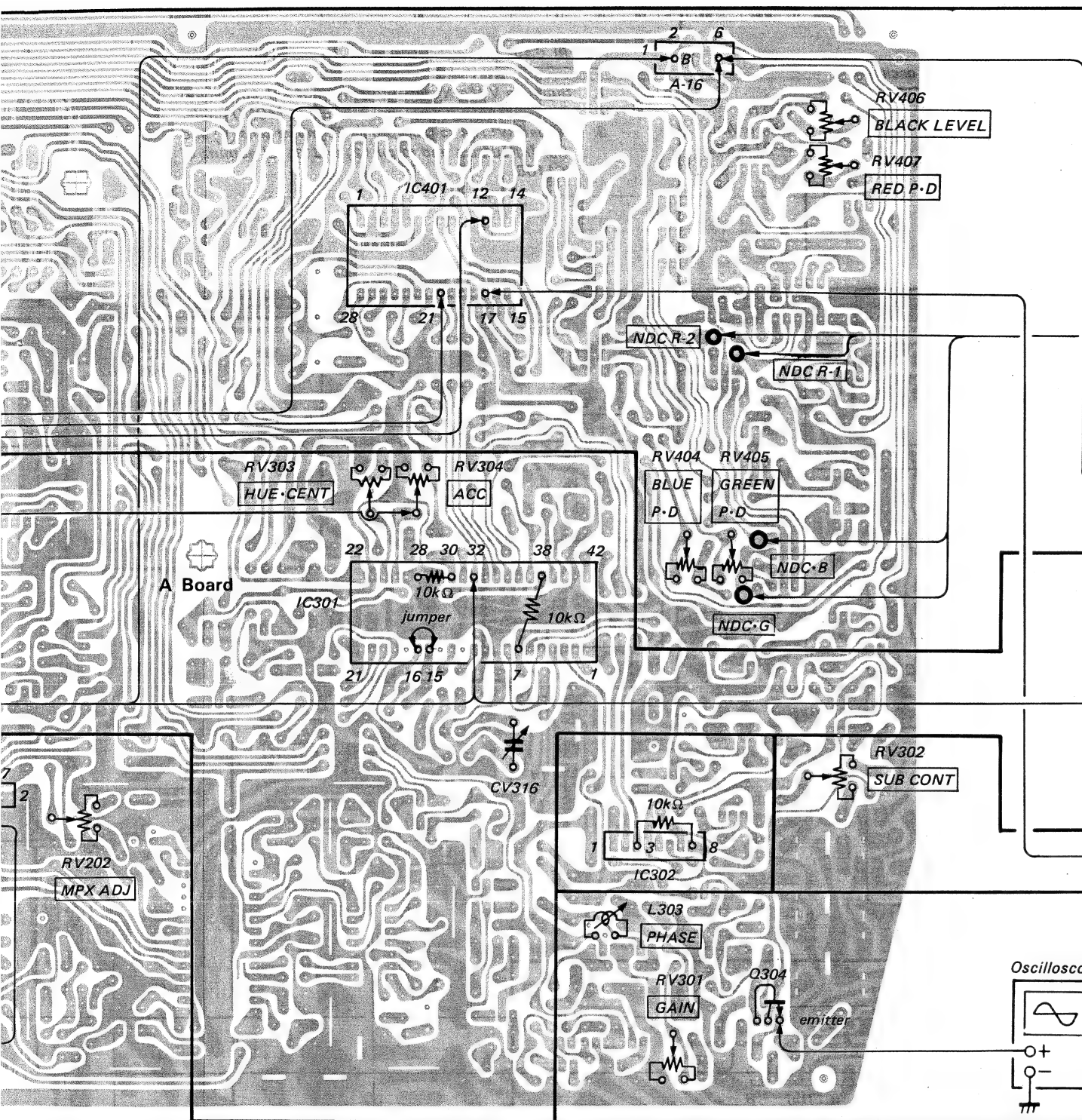
- (1) Adjust with RV201 (RF AGC) so as to disappear snow noise and cross-modulation.
- (2) Confirm them at every channel.

Oscilloscope



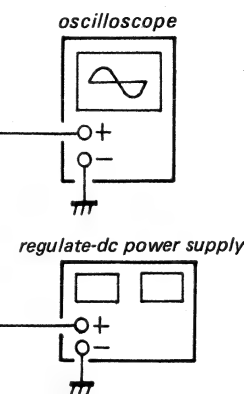
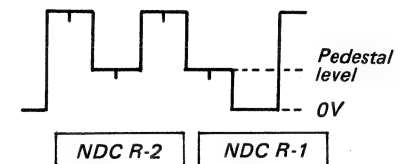
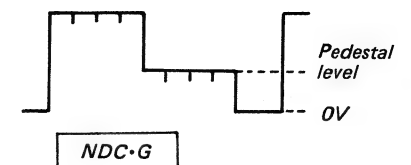
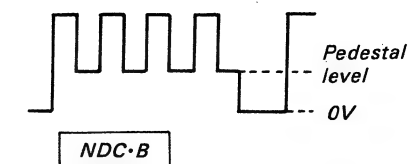
MPX ADJUSTMENT

- (1) Receive dot signal with channel 9.
- (2) Observe pin (1) of A-7 connector with
- (3) Adjust it with the MPX volume (RV)



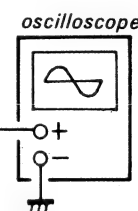
N. DYNAMIC COLOR ADJUSTMENT

- (1) Receive color bar signal.
- (2) N.D.C Blue ON state
PICTURE VOLUME Minimum
BRIGHTNESS VOLUME 50% (resetting)
- (3) Watch the potential at the points of NDC-B and NDC-G to the pedestal at the point of NDCR-2 with RV404 (BLUE P.D) and RV405 (GREEN P.D), and adjust so that the input level offset becomes disappear.
- (4) Apply 6V DC to pin (6) of A-16 connector (SUB BRT), and adjust the pedestal levels at the points of NDC-R-1 and NDC-R-2 so as to they become the same level with RV407 (RED P.D).
- (5) Switch the NDC at green and red, and confirm that there have been no differences in adjustments.

14.3 MHz · f₀ ADJUSTMENT

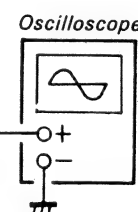
- (1) Receive color bar signal.
- (2) HUE VOLUME 50%
COLOR THICKNESS VOLUME ... 50% Resetting
PICTURE VOLUME 70%
- (3) Connect pin (30) of IC301 to GND through via 10 kΩ resistor.
- (4) Connect pin (38) of IC301 to 12V via 10 kΩ resistor.

- (5) Short pins (15) and (16) of IC301.
- (6) Observe pin (32) of IC301 with an oscilloscope, and confirm that the color signal is out of synchronization.
- (7) Turn CV316 to make color synchronization.

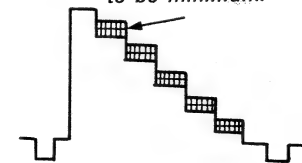


COMB TYPE FILTER ADJUSTMENT

- (1) Set at TV mode and receive color bar signal.
- (2) Connect an oscilloscope to the Y signal output of the comb type filter (the emitter of Q304), and adjust RV301 (GAIN) and L303 (PAHSE) taking tracking, so as the chroma component of the waveform to becomes minimum.

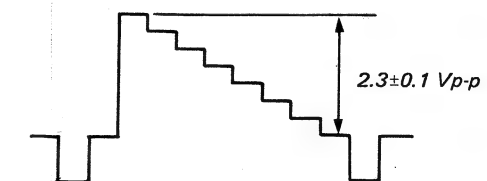


Make 3.58 MHz carrier component to be minimum.



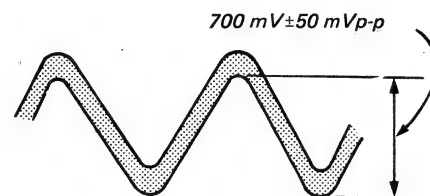
SUB-CONTRAST ADJUSTMENT

- (1) Receive color bar signal.
- (2) COLOR PICTURE VOLUME Maximum
COLOR THICKNESS VOLUME Minimum
- (3) Adjust the waveform of pin (17) of IC401 to that as shown in the diagram with RV302 (SUB CONT)



PX ADJUSTMENT

Receive dot signal with channel 9.
Observe pin (1) of A-7 connector with an oscilloscope.
Adjust it with the MPX volume (RV202).



SEPARATION ADJUSTMENT

- (1) Receive stereo signal.
- (2) Adjust (MPX ADJ) with RV202 so that the separation becomes optimal.

4-2. X BOARD ADJUSTMENTS

SIGNAL SET UP

V MAIN (L+R) signal: 300 Hz, 247 mVrms (0.7 Vp-p)
 V SUB (L-R) signal: 400 Hz, 100% modulation
 Carrier: 31.468 kHz
 1.4 Vp-p
 V SAP signal: 400 Hz, 100% modulation
 (± 10 kHz deviation)
 0.42 Vp-p
 Carrier: 78.671 kHz
 STEREO PILOT signal: 15.734 kHz
 0.14 Vp-p

SEPARATION

1. Set to the SAP mode.
2. Input 300 Hz, 63.0 mVrms (-21.8 dBs) sine wave signal to dBX IN.
 Adjust RV1110 to 0.15 Vp-p ± 5 mV at IC1106 output pins (2) and (3) [L] outputs, and to (9) and (10) [R] outputs, at this time.

oscilloscope

oscillator

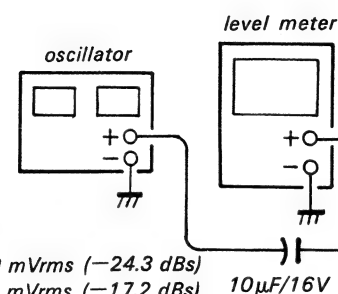
300 Hz
 63.0 mVrms
 (-21.8 dBs)

(L+R) GAIN

1. Supply a V MAIN signal to pin (1) of X-1 connector.
2. Sets the MAIN mode, and STEREO or MONO mode.
3. Adjust RV1104 to 0.6 Vp-p ± 20 mV at pins (9) and (10) [R] outputs and to pin (2) and (3) [L] outputs of IC1106.

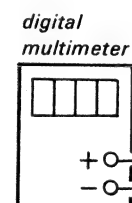
NOISE REDUCTION VARIABLE DE-EMPHASIS

1. Sets RV1109 (VD ADJ) and RV1110 (SEPARATION) to mechanical center.
2. Connect the 1 k Ω Resistor between the EMITTER and 9V LINE to turn OFF the Q1110.
3. Input 300 Hz, 46.9 mVrms (-24.3 dBs) sine wave signal to dBX IN.
 Read the output level (Va) of dBX OUT and make sure that the level (Va) is -35 dBs $< V_a < -23$ dBs.
4. Input 8 kHz, 106.2 mVrms (-17.2 dBs) sine wave signal to dBX IN.
 Adjust RV1109 (VD ADJ) so that the output level (Vb) of dBX OUT will become V_b (dBs) = $[V_a$ (dBs) $- 11.3$ (dB)] at this time.
 0 dBs = 0.775 Vrms



NOISE REDUCTION (TIME CONSTANT)

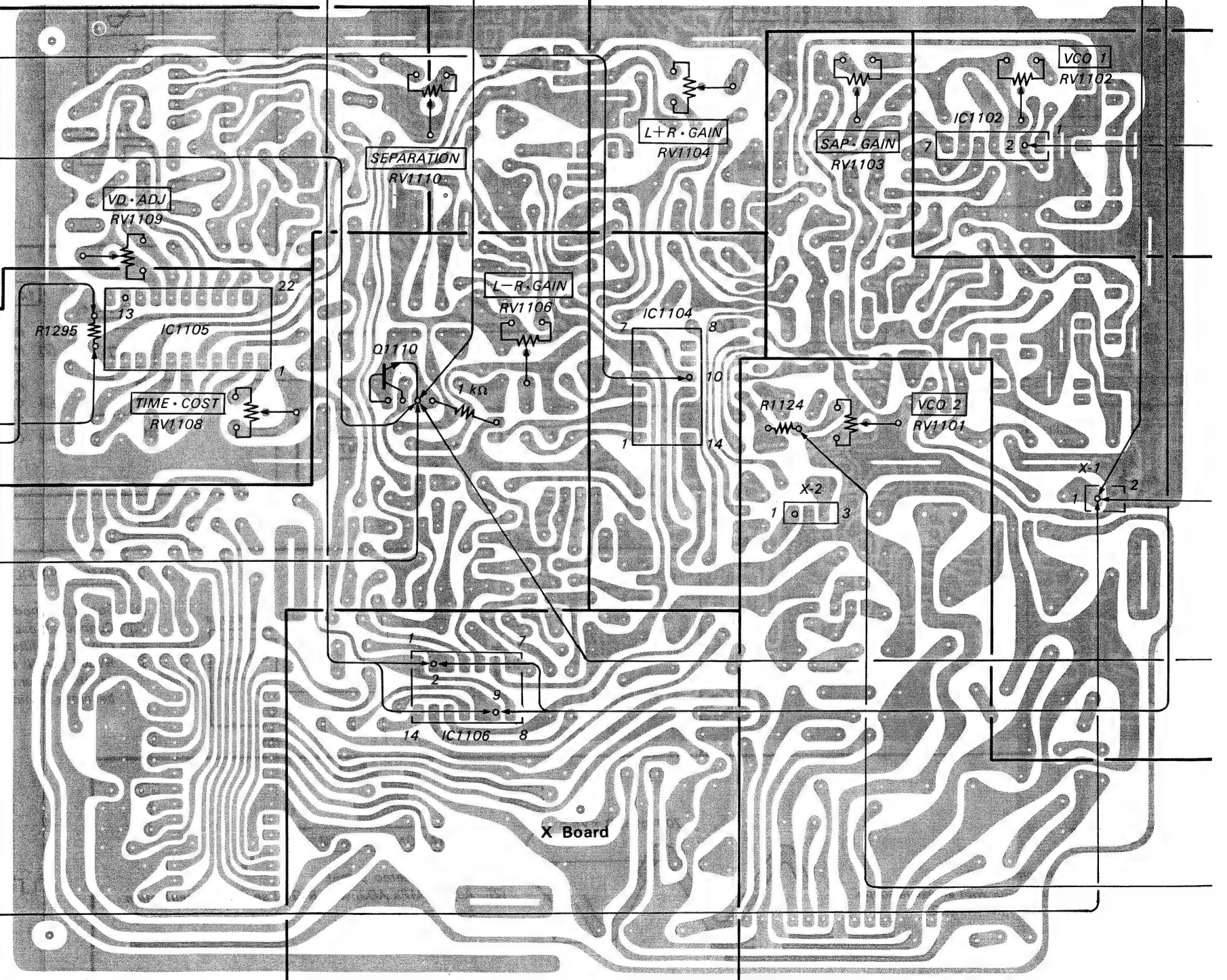
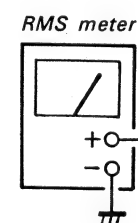
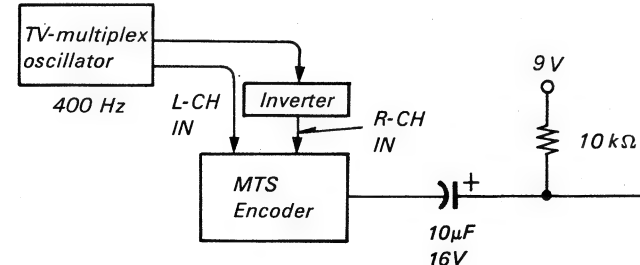
1. Adjust RV1108 to 15 ± 1 mVdc at IC1105 pin (13) as shown.



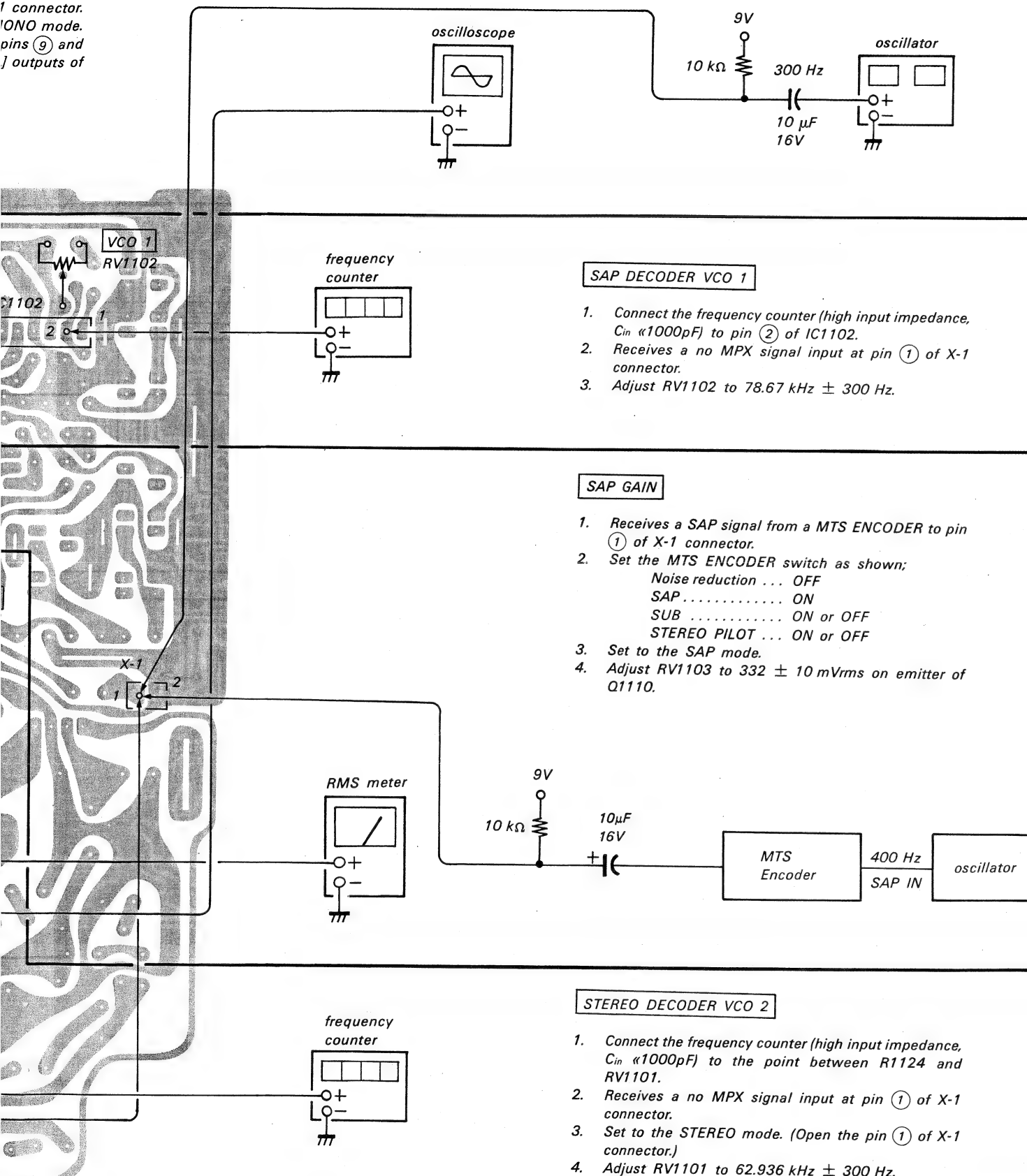
(L-R) GAIN

1. Receives a composite signal (SUB signal and STEREO PILOT signal) from a MTS ENCODER to pin (1) of X-1 connector.
2. Set the MTS ENCODER switch as shown:
 Noise reduction ... OFF
 SUB ... ON
 STEREO PILOT ... ON
 SAP ... ON or OFF
3. Set the MAIN mode of the DECODER.
4. Adjust RV1106 to 332 ± 10 mVrms on emitter of Q1110.

Signal Setup



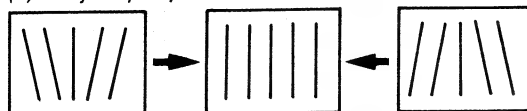
1 connector.
MONO mode.
pins ⑨ and
] outputs of



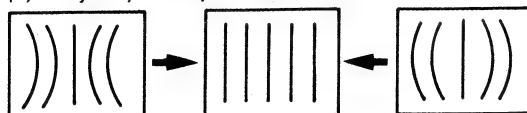
4-3. D BOARD ADJUSTMENT

OPERATION CONFIRMATION OF THE LEFT AND RIGHT PINS DISTORTIONS AND ADJUSTMENTS (ROUGH ADJUSTMENTS)

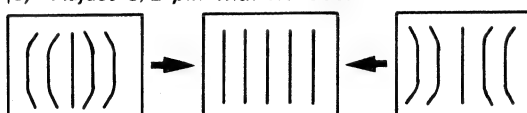
(1) Adjust pin phase with RV1513.



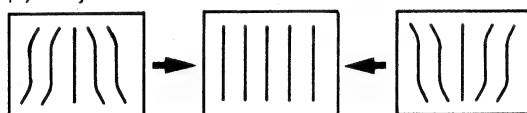
(2) Adjust pin amplification with RV1512.



(3) Adjust U/L pin with RV1509.



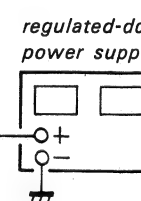
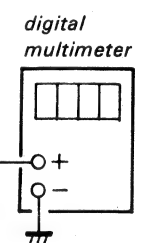
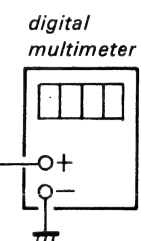
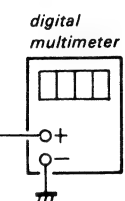
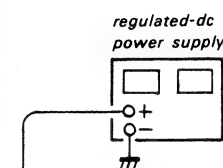
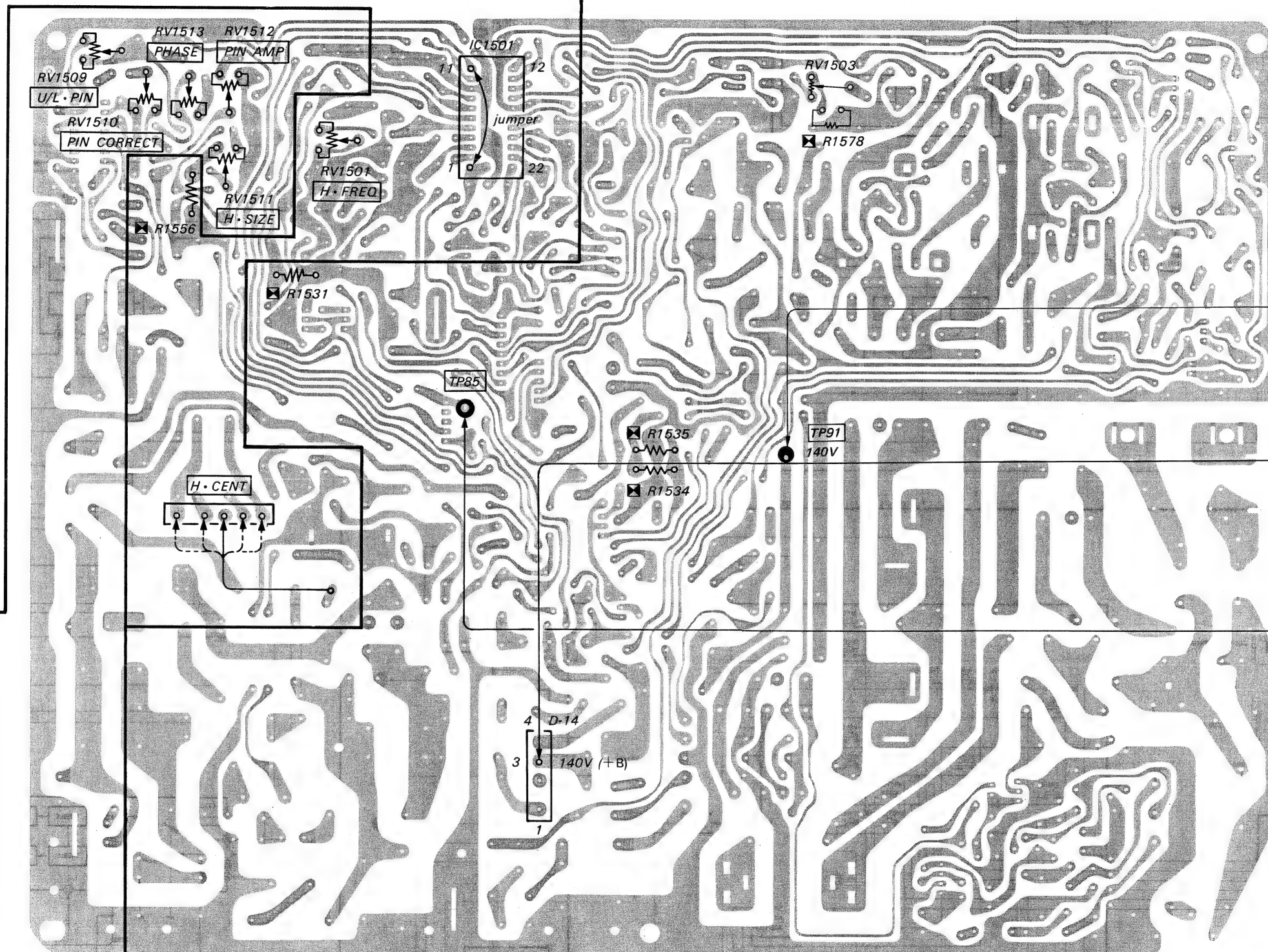
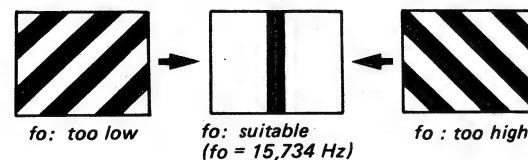
(4) Adjust PIN CORRECT with RV1510.



(5) Adjust the horizontal amplitude to $15.5^{+0.1}_{-2.0}$ frames with RV1511.

ADJUSTMENT OF HORIZONTAL SYNCHRONIZATION

- (1) Connect pin ① of IC1501 to pin ①①. At this time, be sure to connect pin ③ of IC302 on the A board to 12V through 10 kΩ.
- (2) Turn the horizontal synchronizing volume (RV1501), and adjust the volume so as to flow of the picture becomes as shown in diagram.
- (3) Remove pin ①① from pin ① and be sure to confirm the horizontal synchronization is normal and whether picture becomes out of order when channel is switched or not.



Confirming of Hold Down Circuit

■ R1531, R1534, R1535, R1556, R1578

Perform the adjustment below when replacing any of the following components.

Regarding components of ■ R1531 (HV HOLD DOWN)

■ D1502, D1507, IC1501, Q1502, Q1503, R427, R431, R437, R438, R1512, R1519, R1529, R1530, R1531, R1532, R1533, R1543, R1544, R1545

Confirmation method**(1) +B MAX confirmation**

- 1) Set AC be $130 \begin{smallmatrix} +3 \\ -0 \end{smallmatrix}$ V and distortion rate be less than 3%, and receive monosco and reset picture and brightness.
- 2) At this point, the voltage on the 140V line should be less than 141.5V DC.

(2) Operational confirmation of detected voltage

- 1) Set AC be $120V \pm 3V$ and distortion rate be less than 3%, and receive entire white signal, and set the picture and brightness at MAX.
- 2) At this point, confirm that the voltage more than 11.0V DC is appeared on TP85.
- 3) In addition, confirm that TP85 holds down when $15.19 \begin{smallmatrix} +0.0 \\ -0.05 \end{smallmatrix}$ V DC is applied to it.
- 4) Confirm that TP85 does not hold down when the voltage of $14.58 \begin{smallmatrix} +0.05 \\ -0.0 \end{smallmatrix}$ V DC is applied to it.
- 5) Set AC be $120V \pm 3V$ and distortion rate be less than 3%, and receive dot signal and set the picture and brightness at MIN.
- 6) Confirm that TP85 holds down when $16.29 \begin{smallmatrix} +0.0 \\ -0.05 \end{smallmatrix}$ V DC is applied to it.
- 7) Confirm that TP85 does not hold down when $15.77 \begin{smallmatrix} +0.05 \\ -0.0 \end{smallmatrix}$ V DC is applied to it.

V. SIZE CONFIRMATION

* The following adjustments should always be performed when replacing the following components (marked with ■ on the components circuit).

* Regarding components of ■ R1578 (V. SIZE)

■ C1519, C1663, C1664, C1667, C1675, IC1501, L1514, R1522, R1578, R1579, R1580, R1581, R1582, R1583, RV1503, FBT, DY

1. Receive monoscope signal.
2. PICTURE } RESET
BRIGHTNESS }
3. Confirm that the V. SIZE at minimum should not exceed 14.6 frames by adjusting RV1503 (V. SIZE).

H. SIZE CONFIRMATION

* The following adjustments should always be performed when replacing the following components (marked with ■ on the components circuit).

* Regarding components of ■ R1556 (H. SIZE)

■ C1663, C1664, C1667, C1675, IC1502, L1514, R1556, R1570, R1635, R1636, R1638, RV1511, FBT, DY

1. Receive monoscope signal.
2. PICTURE } RESET
BRIGHTNESS }
3. Confirm that the H. SIZE should be within 11.3 to 14.0 frames when adjusting the H. SIZE (RV1511) to maximum.

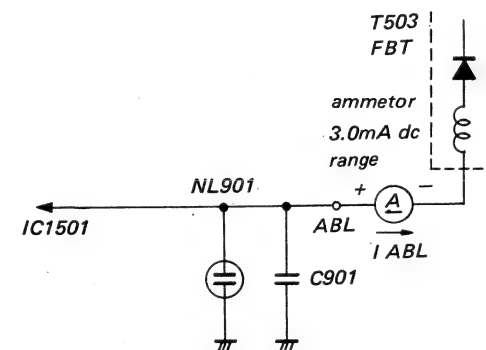
PROTECTOR CONFIRMATION

* The following adjustments should always be performed when replacing the following components (marked with ■ on the component circuit).

* Regarding components of ■ R1534, R1535 (PROTECTOR)

■ D1508, D1509, IC301, IC401, Q1506, R339, R340, R348, R436, R1534, R1535, R1537, R1538, R1539, R1561, R1576

1. Receive color bar signal.
2. Turn the power supply of the set to ON.
3. PICTURE } maximum
BRIGHTNESS }
COLOR }
4. Apply DC $125.3 \begin{smallmatrix} +0.2 \\ -0 \end{smallmatrix}$ V externally to +B line, and confirm that the PROTECTOR CIRCUIT becomes active and the raster disappears from the screen.

SAFETY RELATED ADJUSTMENT**CONFIRMING OF HV HOLD DOWN (■ R1531)**

When replacing the following components (marked with ■ on the schematic diagram), perform the adjustment as follows.

■ D1502, D1507, IC1501, Q1502, Q1503, R427, R431, R437, R438, R1512, R1519, R1529, R1530, R1531, R1532, R1533, R1543, R1544, R1545

(1) Before Adjustment

1. Supply 120V ac and the POWER switch set to ON.
2. Confirm that there is more than 11.0 V at the hold down check point TP-85.

(2) Readjustment Procedure

1. Disengage ABL terminal of FBT from the foil and connect the ammeter as shown to measure the ABL terminal current.

2. Supply 120V ac and the POWER switch sets to ON.
3. Apply 135V to TP91 from and external DC power supply.
4. Receive a stable signal such as an all-white signal and adjust ABL current to $1600 \pm 10 \mu A$ with PICTURE, BRIGHT, etc. VRs.
5. Confirm that the HV HOLD DOWN CIRCUIT operates and that raster disappears when $15.19 \begin{smallmatrix} +0.00 \\ -0.05 \end{smallmatrix}$ V is applied to hold down check point TP-85 from an external DC power supply.

Note: When raster disappears, cut input voltage and applied voltage immediately.

6. Confirm that the HV HOLD DOWN CIRCUIT does not operate when $14.58 \begin{smallmatrix} +0.05 \\ -0.00 \end{smallmatrix}$ V is applied to hold down check point TP-85 from an external DC power supply.

Note: If the HV HOLD DOWN CIRCUIT operates, immediately cut input and applied voltage.

7. Receive a stable signal such as a dot signal and adjust ABL current for $200 \pm 10 \mu A$ with PICTURE and BRIGHT VRs.
8. Confirm that the HV HOLD DOWN CIRCUIT does not operate when $15.77 \begin{smallmatrix} +0.05 \\ -0.00 \end{smallmatrix}$ V is applied to hold down check point TP-85 from an external DC power supply.

Note: If the HV HOLD DOWN CIRCUIT operates, immediately cut input and applied voltage.

9. Confirm that the HV HOLD DOWN CIRCUIT operates and raster disappears when $16.29 \begin{smallmatrix} +0.00 \\ -0.05 \end{smallmatrix}$ V is applied to hold down check point TP-85 from an external DC power supply.

Note: When raster disappears, cut input voltage and applied voltage immediately.

10. Adjust R1531 so that steps 5, 6, 8 and 9 are satisfied.
11. The POWER switch turns OFF.
12. Remove external DC power supply and DC ammeter.
13. Solder FBT ABL pin.

CHECKING AFTER H.V.R. REPLACEMENT

After replacing H.V.R., *confirm that there is more than 11.0 V on HOLD DOWN check point TP-85.

* This check is to be performed when H.V.R. only is replaced, and has no relation to the HV hold down circuit readjustment for replacement of parts marked ■.

MAXIMUM +B VOLTAGE CONFIRMATION

1. Supply 130V ac to with variable auto-transformer.
2. Tune in an off air signal.
3. Set the PICTURE control to initial setting and BRIGHT control to mechanical center.
4. Confirm the voltage on digital multimeter is less than 141.5V dc.
5. If step 4 is not satisfied, replace IC651 on GB board and repeat above steps.

CHECK AFTER IC651 REPLACEMENT

1. Supply 130 V ac to with variable auto-transformer.
2. Tune in an off-air signal.
3. Set the PICTURE control to initial setting and BRIGHT to mechanical center.
4. Confirm the voltage of TP91 is less than 141.5 V dc.
5. If step 4 is not satisfied, replace IC651 in GB board and repeat above steps.

CONFIRMATION OF H.SIZE (■ R1556)

Perform the adjustment below when replacing any of the following components.

■ C1663, C1664, C1667, C1675, IC1502, L1514, R1556, R1570, R1635, R1636, R1638, RV1511, FBT, DY

Confirmation method

1. Receive monoscope signal.
PICTURE..... } RESET
BRIGHTNESS..... }
3. Confirm that the H.SIZE should be within 11.3 to 14.0 frames when adjusting the H.SIZE (RV1511) to maximum.

CONFIRMATION OF V.SIZE (■ R1578)

Perform the adjustment below when replacing any of the following components.

■ C1519, C1663, C1664, C1667, C1675, IC1501, L1514, R1522, R1578, R1579, R1580, R1581, R1582, R1583, RV1503, FBT, DY

Confirmation method

1. Receive monoscope signal.
2. PICTURE..... } RESET
BRIGHTNESS..... }
3. Confirm that the V.SIZE at minimum should not exceed 14.6 frames by adjusting RV1503 (V.SIZE).

CONFIRMATION OF PROTECTOR (■ R1534, R1535)

Perform the adjustment below when replacing any of the following components.

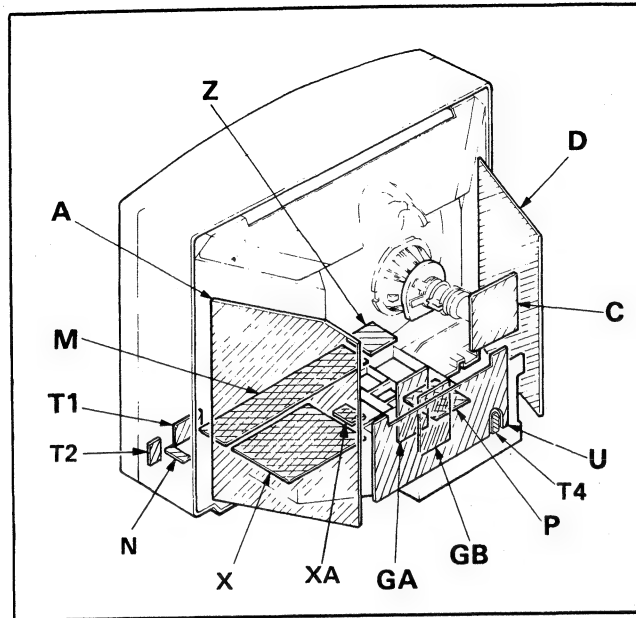
■ D1508, D1509, IC301, IC401, Q1506, R339, R340, R348, R436, R1534, R1535, R1537, R1538, R1539, R1561, R1576

Confirmation method

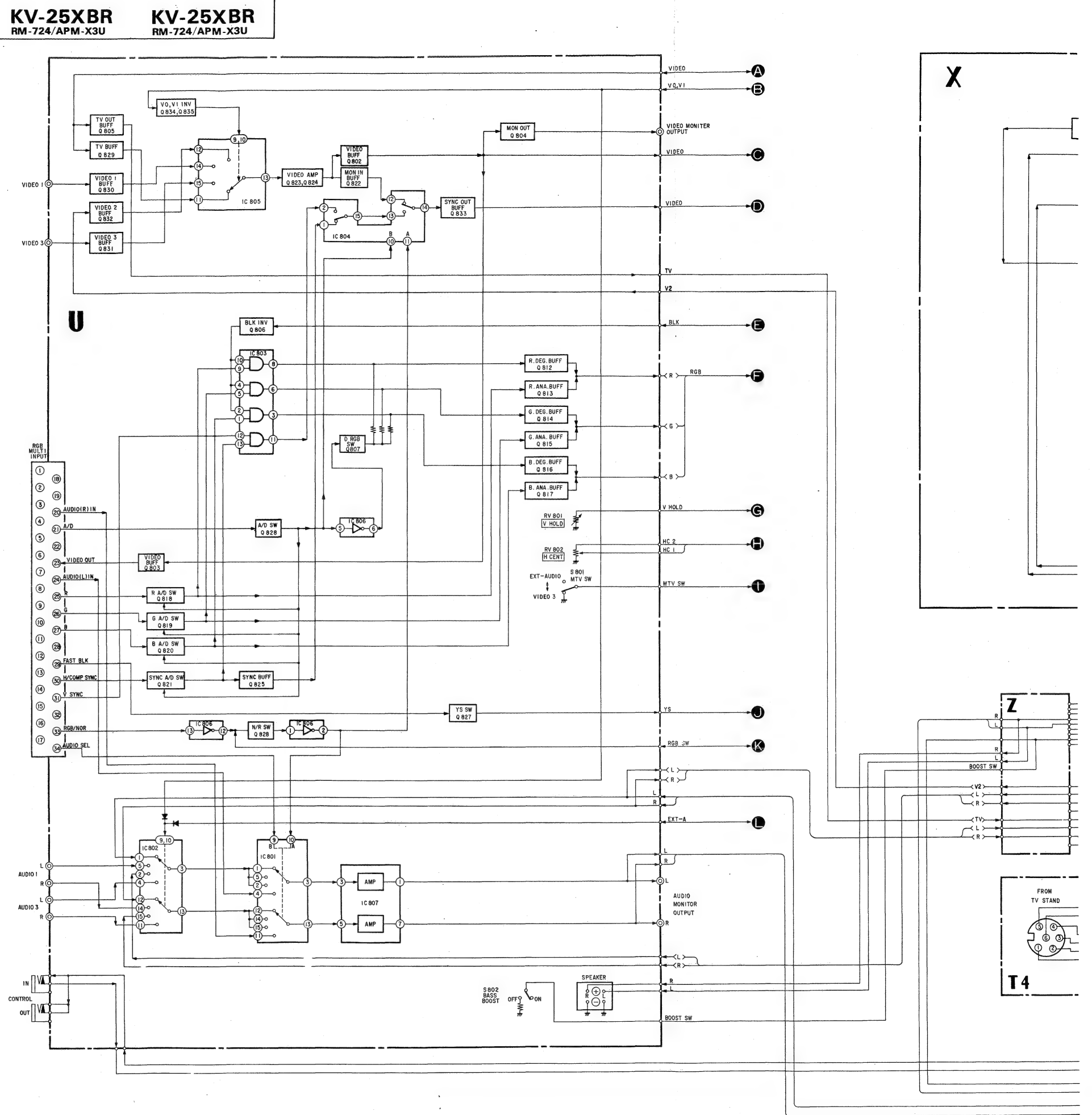
1. Receive color bar signal.
2. Turn the power supply of the set to ON.
3. PICTURE..... } maximum
BRIGHTNESS..... }
COLOR..... }
4. Apply DC $125.3 \begin{smallmatrix} +0.2 \\ -0 \end{smallmatrix}$ V externally to +B line, and confirm that the PROTECTOR CIRCUIT becomes active and the raster disappears from the screen.

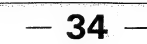
SECTION 5 DIAGRAMS

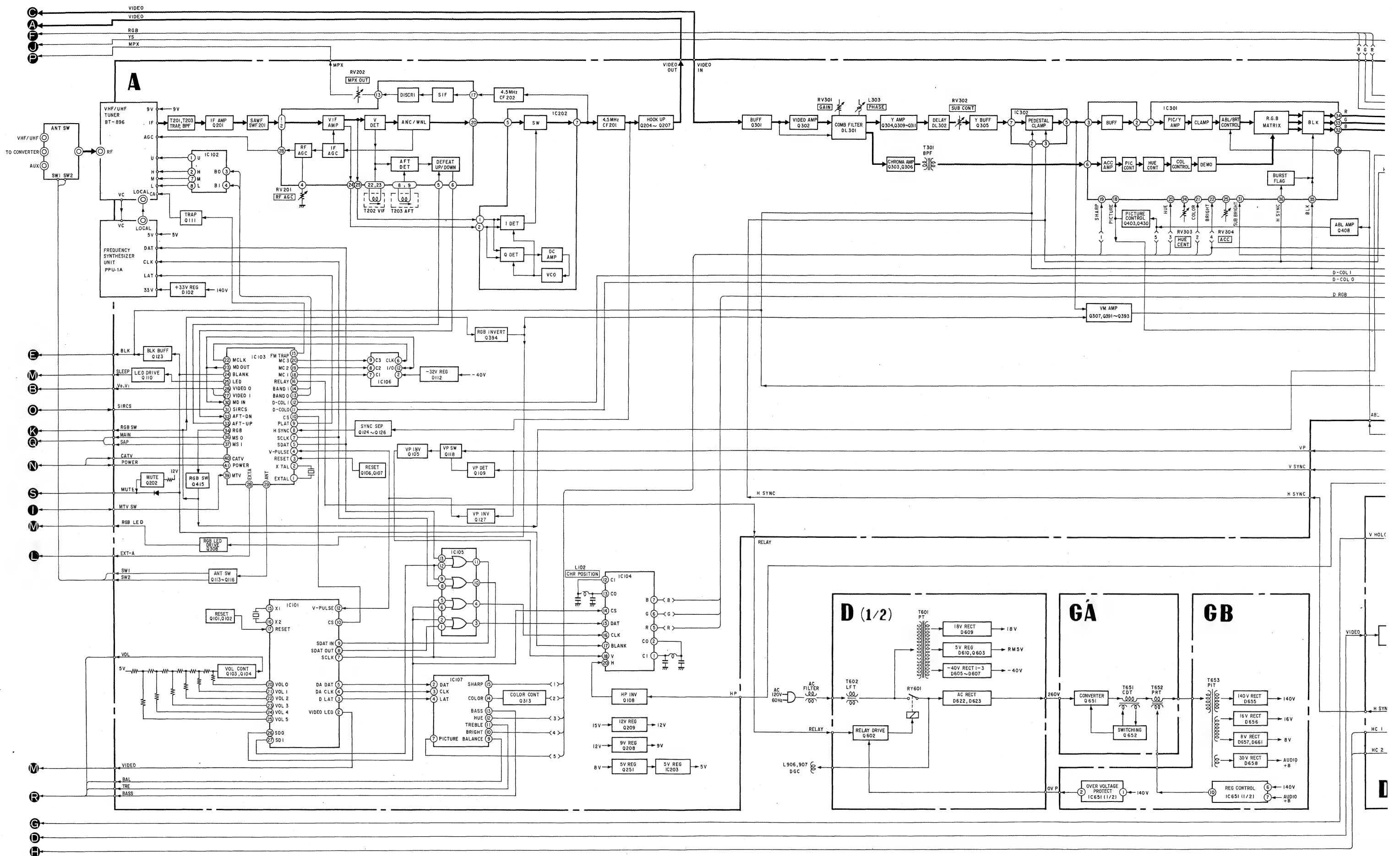
5-1. CIRCUIT BOARDS LOCATION

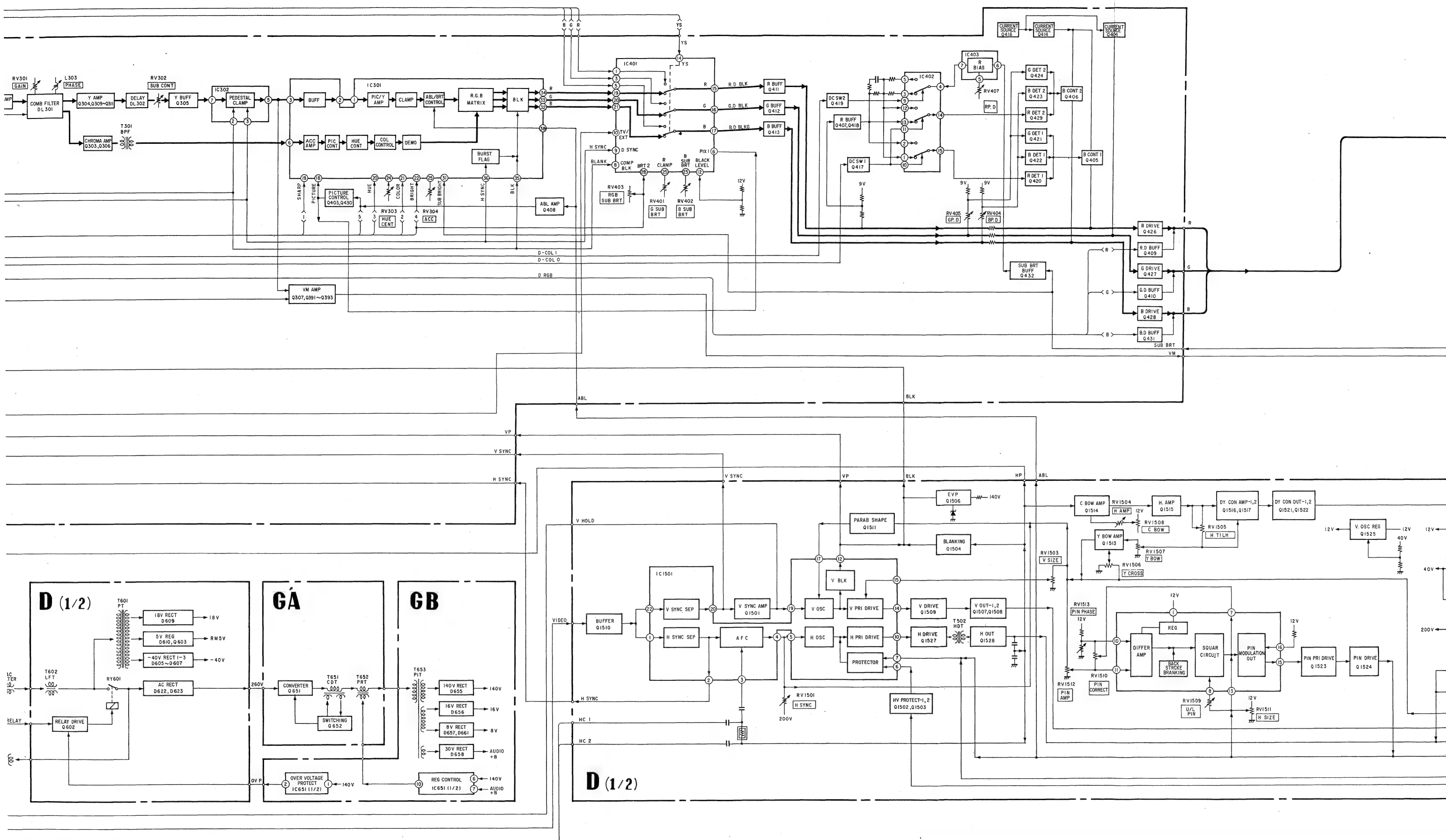


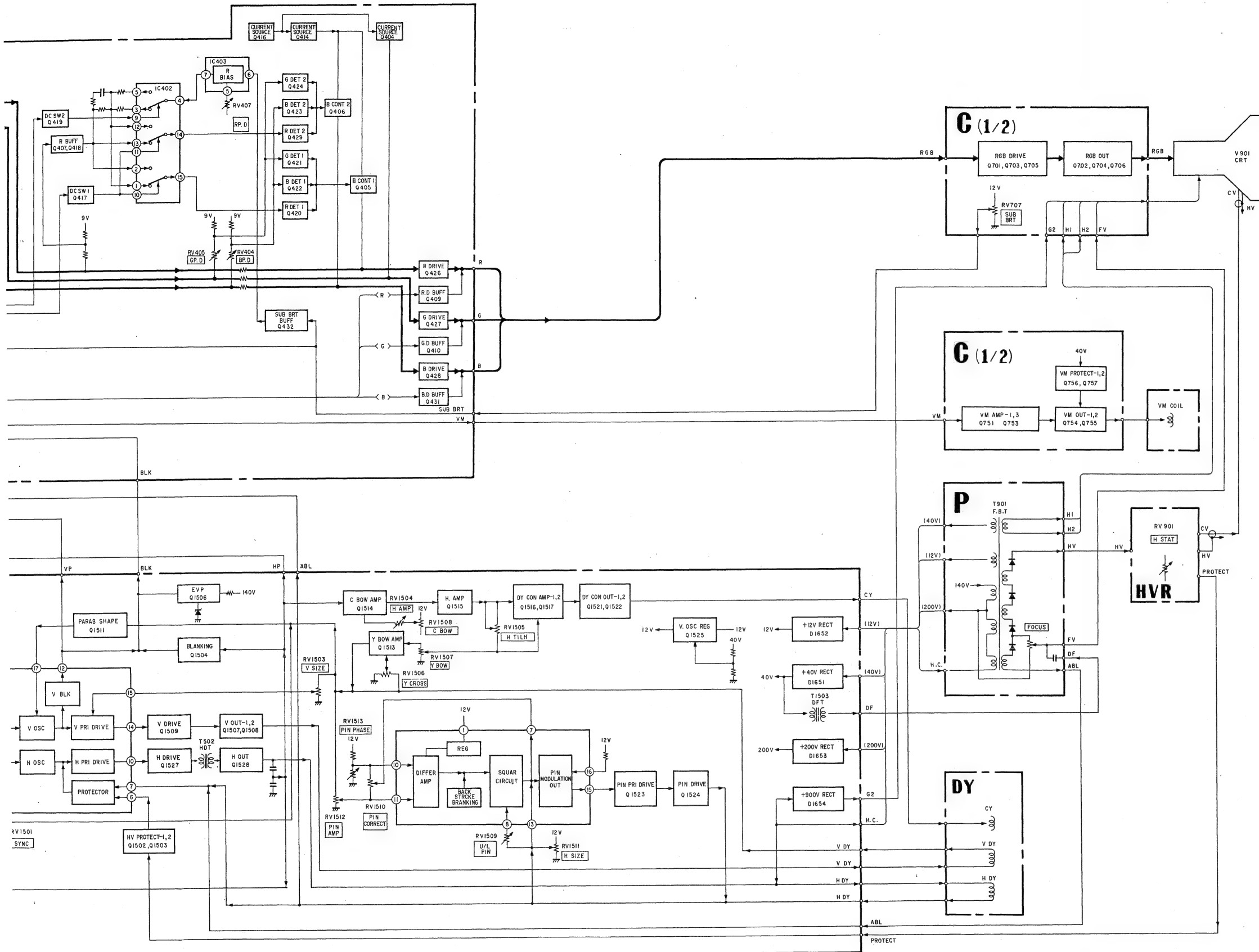
5-2. BLOCK DIAGRAM



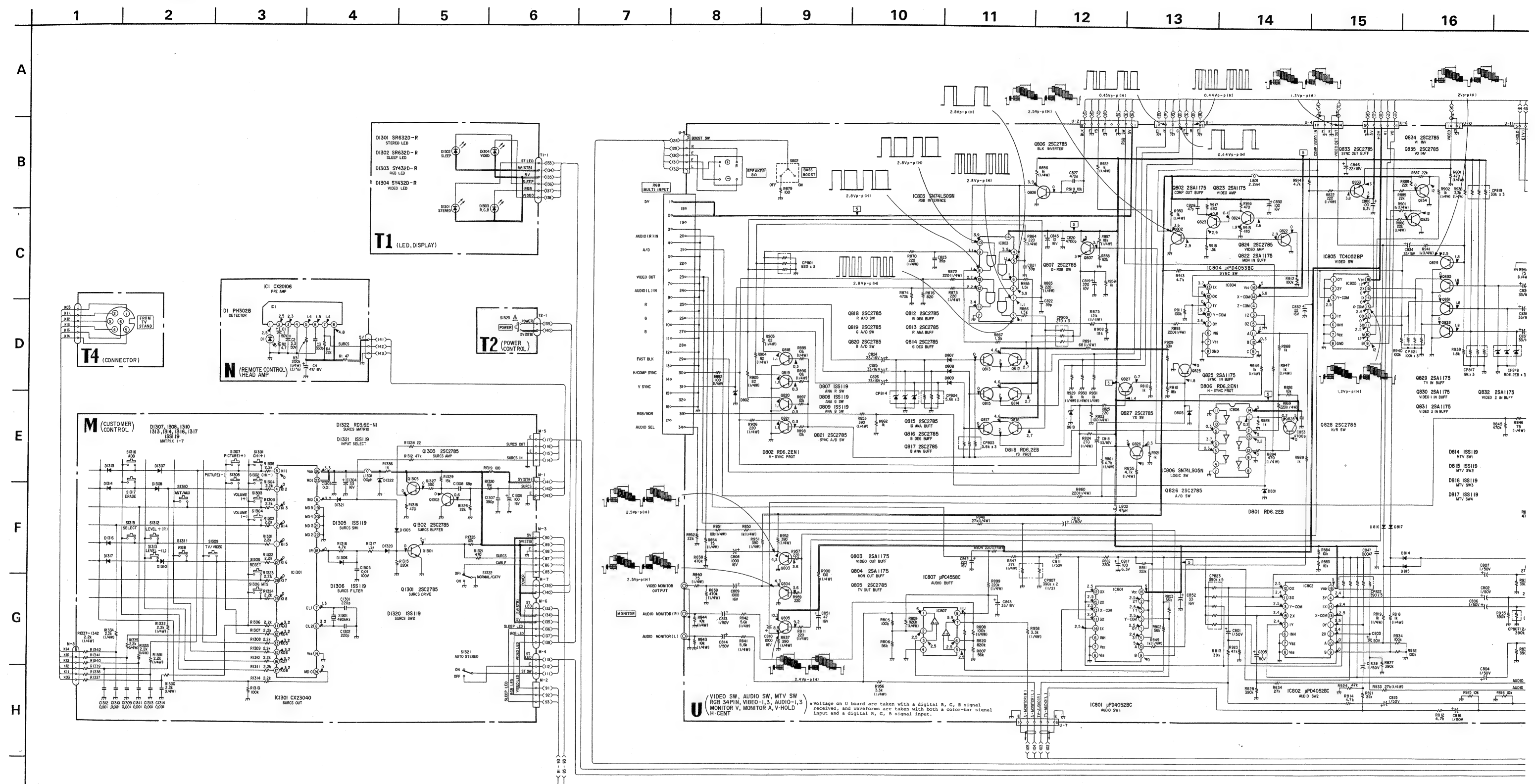


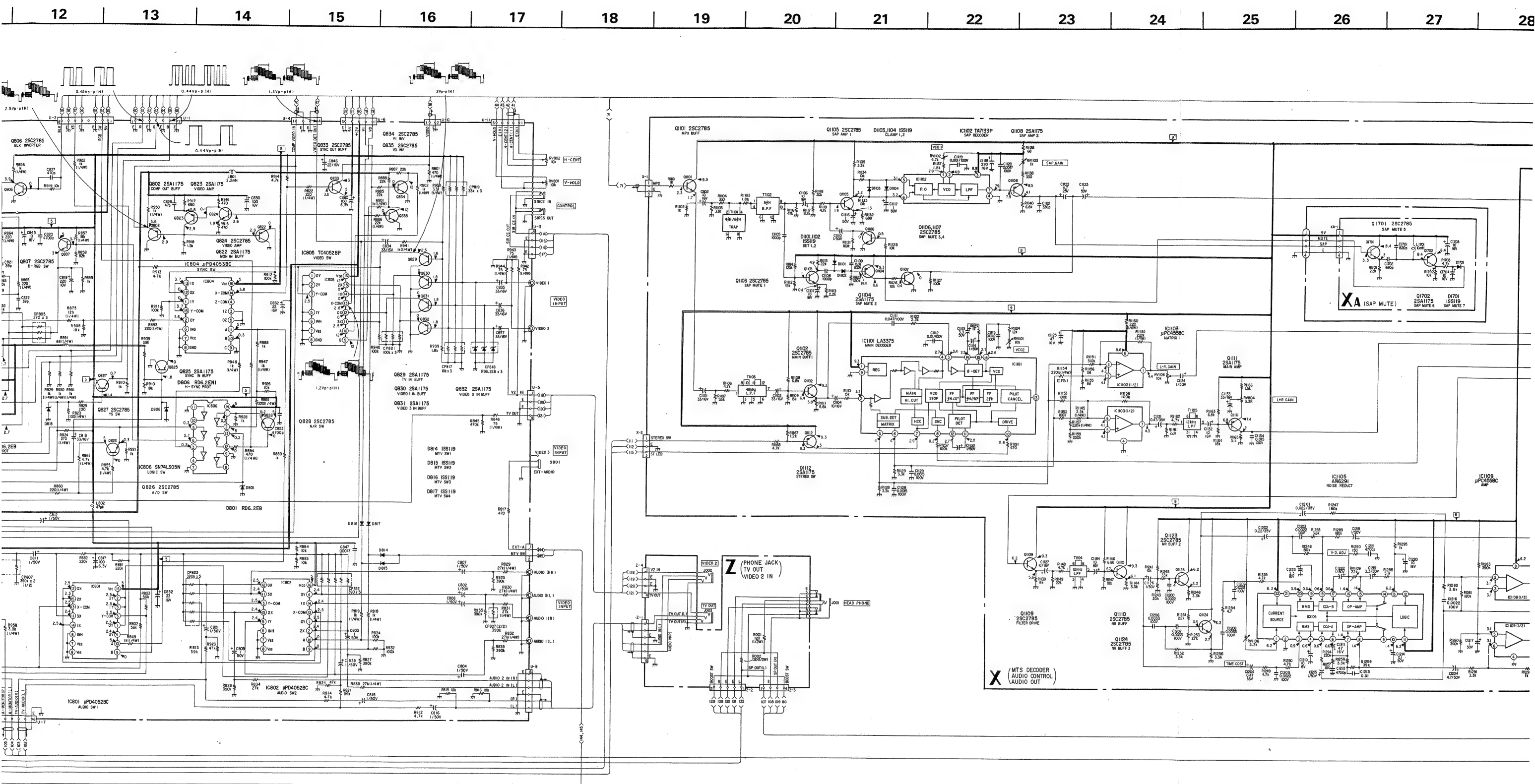




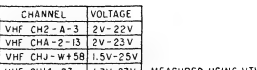


5-3. SCHEMATIC DIAGRAM





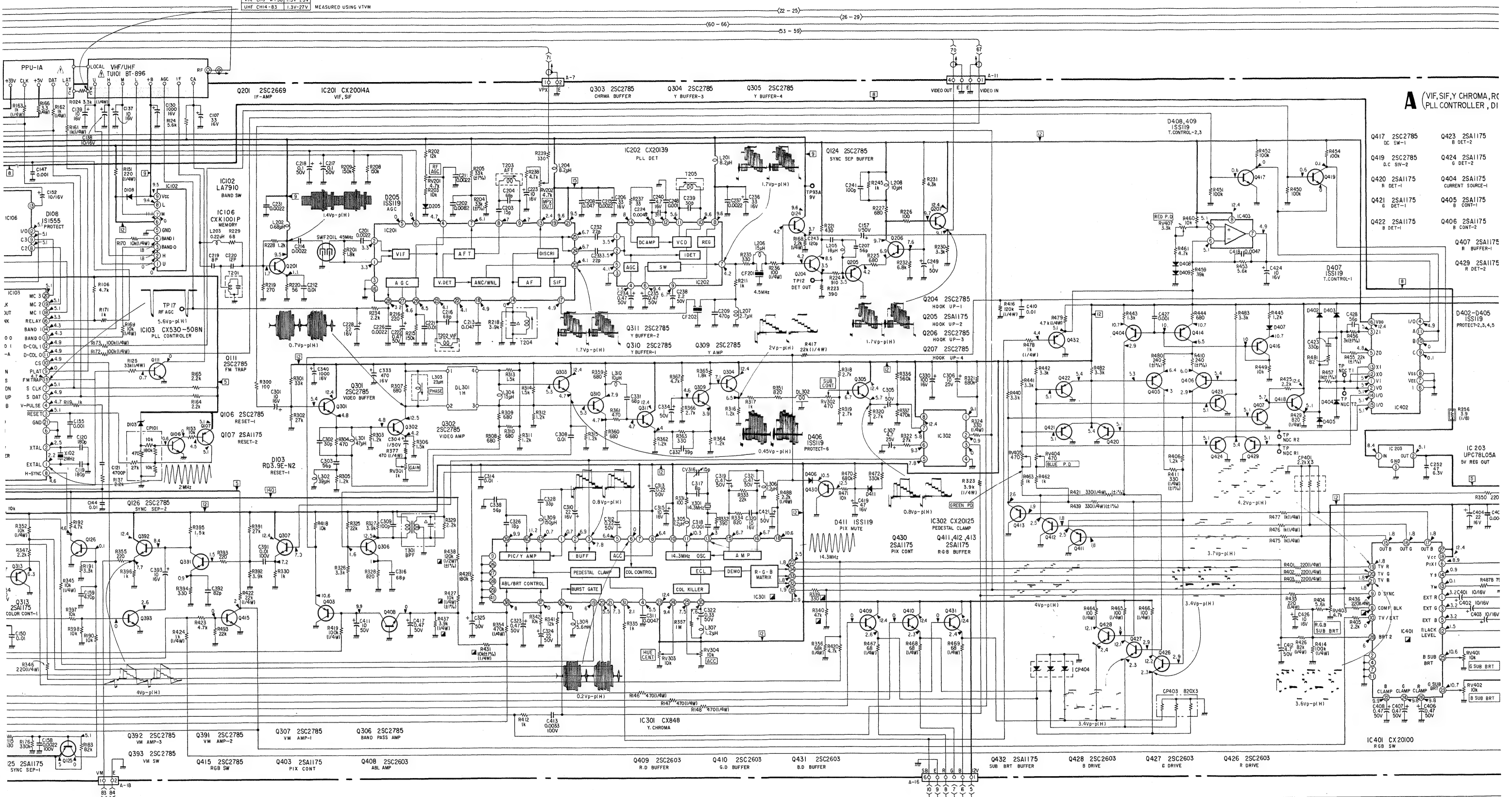




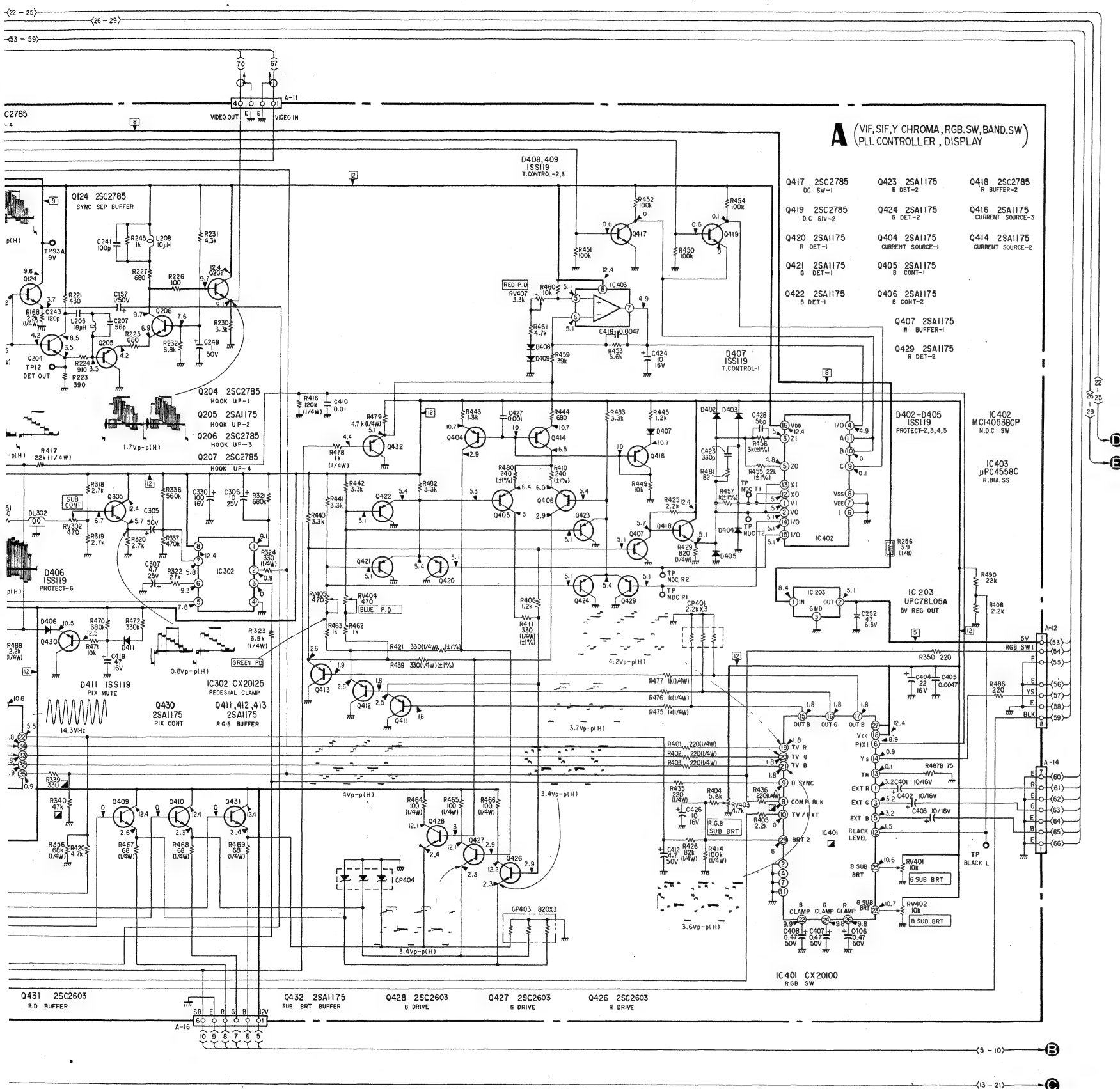
0 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

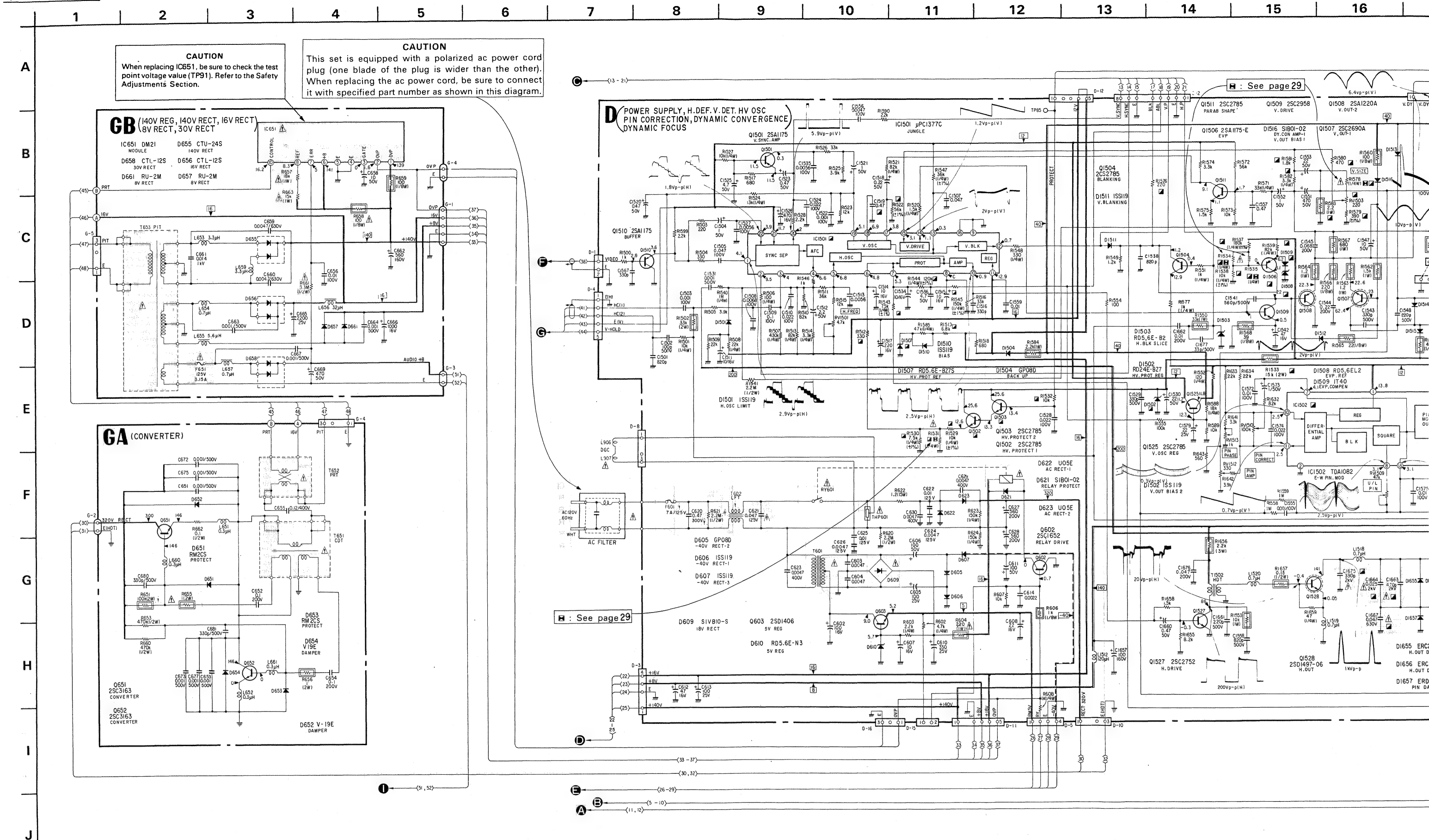
CHANNEL	VOLTAGE
VHF CH2-A-3	2V-22V
VHF CH4-A-2-13	2V-23V
VHF CH3-W+58	1.5V-25V
UHF CH14-B3	1.3V-27V

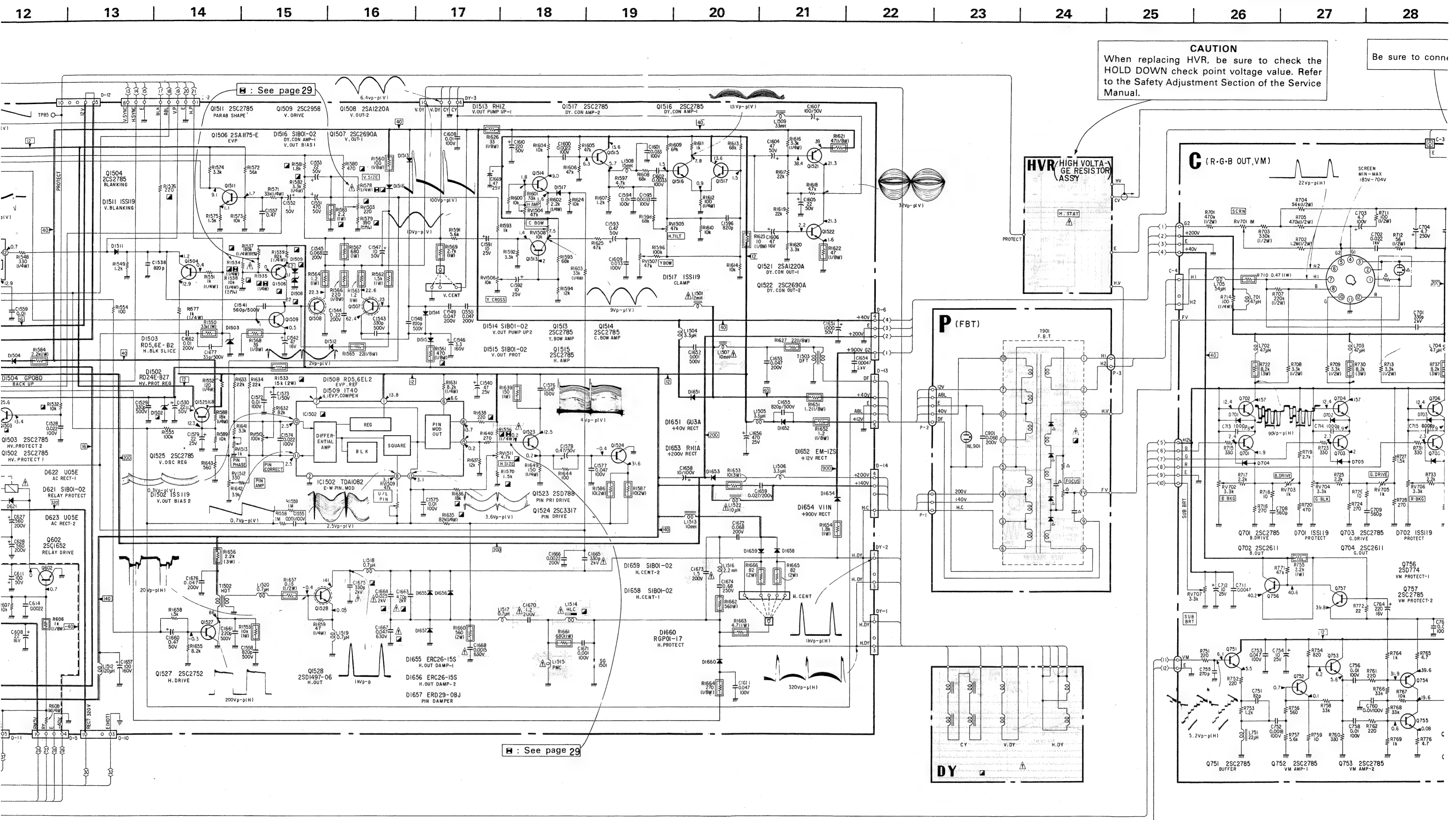
MEASURED USING VTVM



A (VIF, SIF, Y CHROMA, R, C, PLL CONTROLLER, D, I)





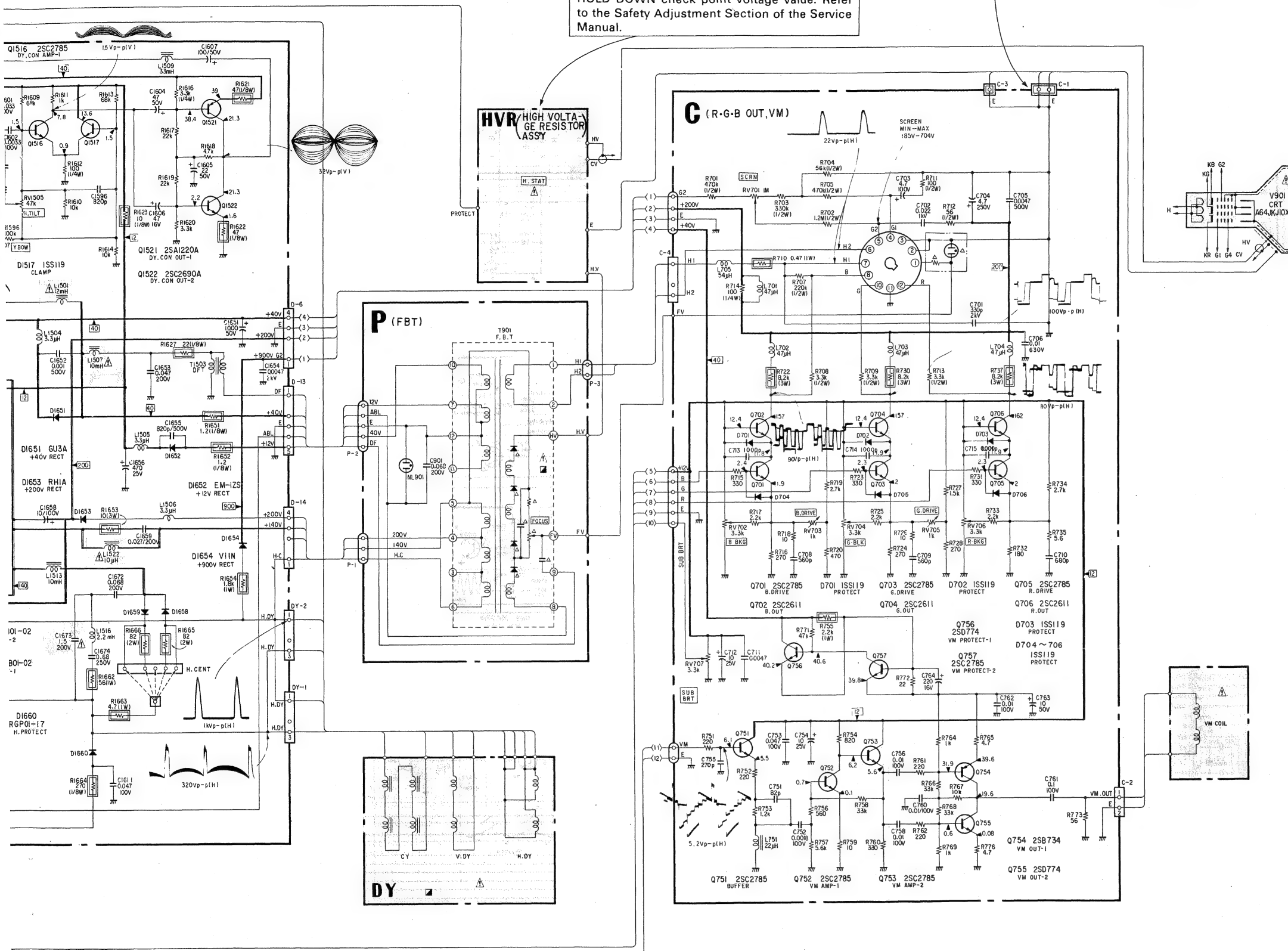


CAUTION

When replacing HVR, be sure to check the HOLD DOWN check point voltage value. Refer to the Safety Adjustment Section of the Service Manual.

CAUTION

Be sure to connect the connector C-1 for safety.



5-4. PRINTED WIRING BOARDS

D POWER SUPPLY, H. DEF. V. DET. HV OSC
PIN CORRECTION, DYNAMIC CONVERGENCE
DYNAMIC FOCUS

A VIF, SIF, Y CHROMA, RGB, SW, BAND. SW
PLL CONTROLLER, DISPLAY

GA [CONVERTER]

GB [140V REG, 140V RECT, 16V RECT]
8V RECT, 30V RECT

KV-25XBR
RM-724/APM-X3U

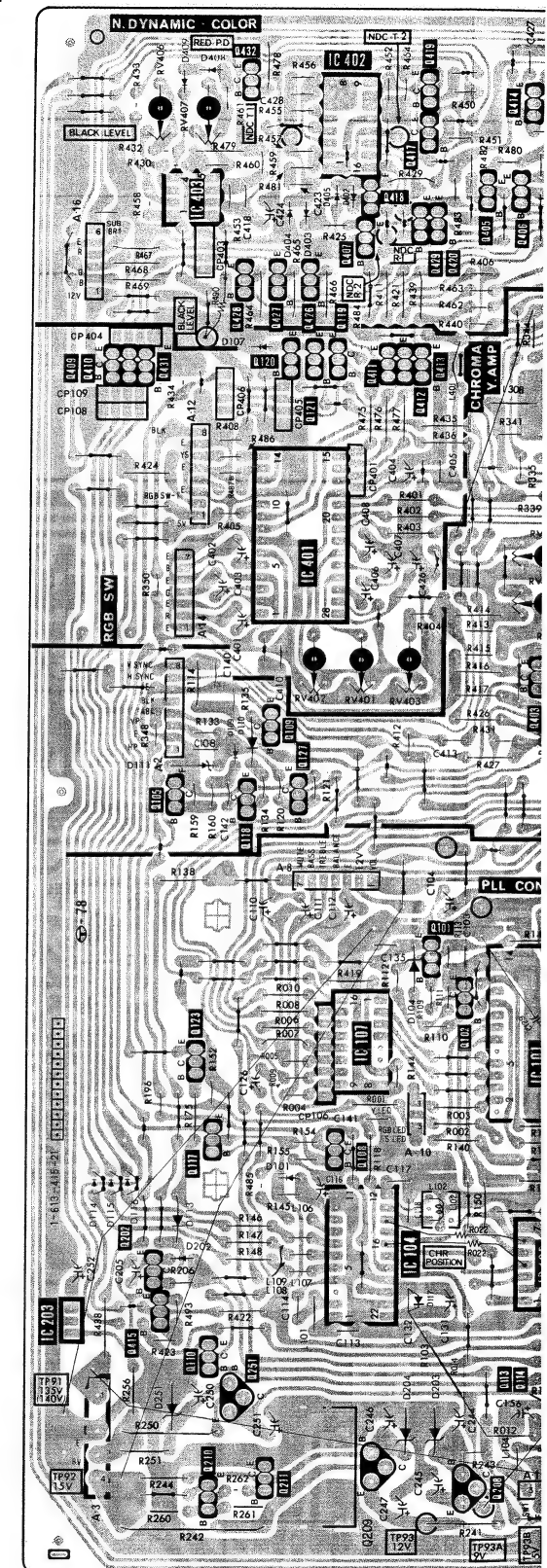
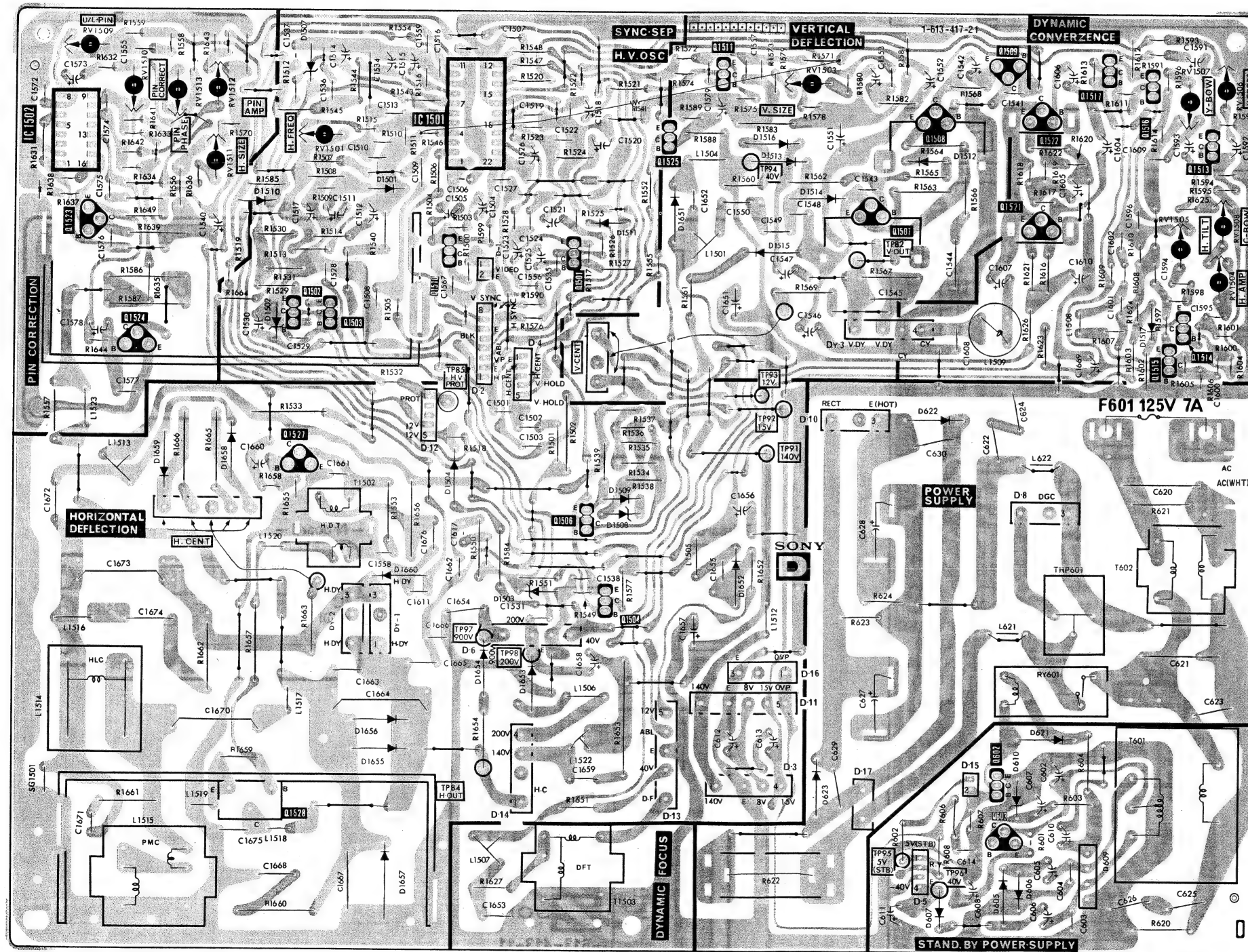
KV-25XBR
RM-724/APM-X3U

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

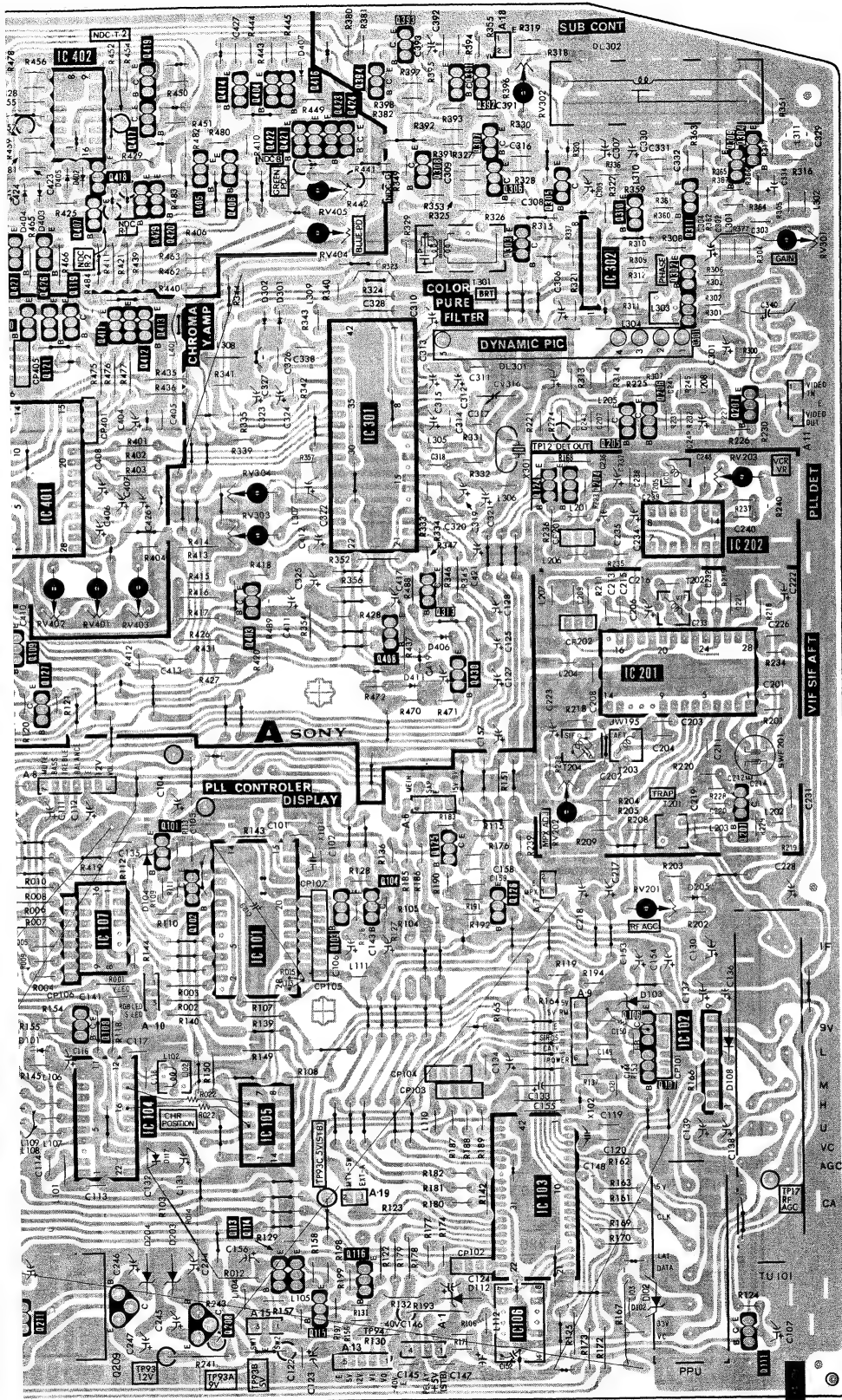
— D board —

IC	IC1502			1502	1503		IC1501	1501	1506	1525	1511		1508	1509	1522	1517	1516	1514	1513
Q	1523			1528	1527		1510	1504	1504	1651			1507	602	603		1515		
D		1659	1658	1510	1507	1660	1501	1654	1503	1511	1509	1652	1515	1516	1513	1514	1517		
ADJ	RV1509	RV1510	RV1513	RV1512	RV1511	RV1501						RV1503					RV1507	RV1506	RV1508
TP							TP85										RV1505	RV1504	

— A board —

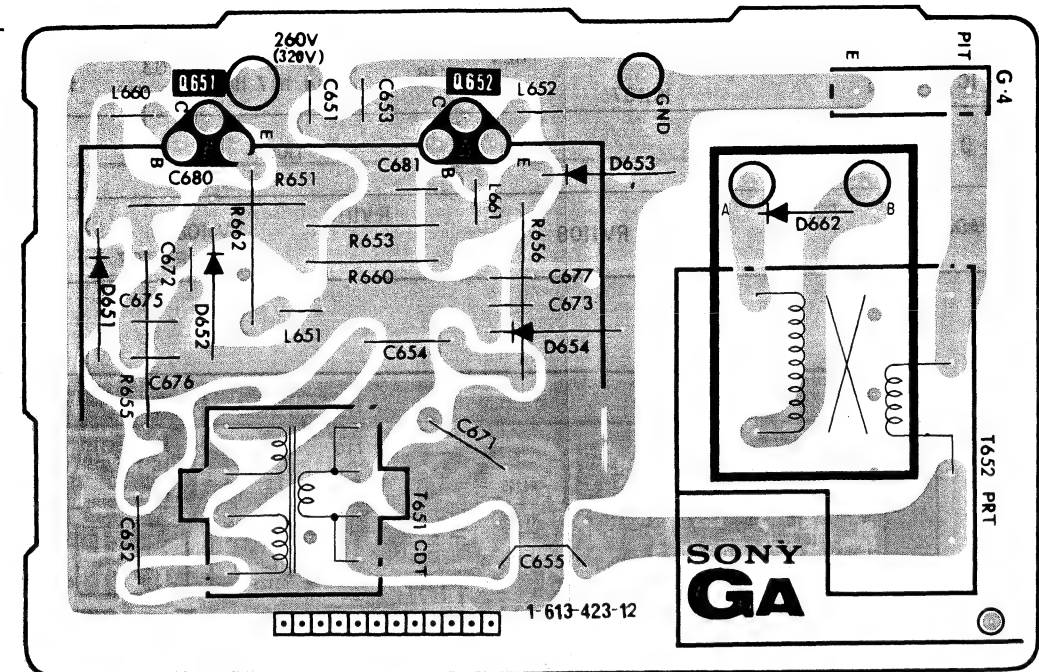


15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

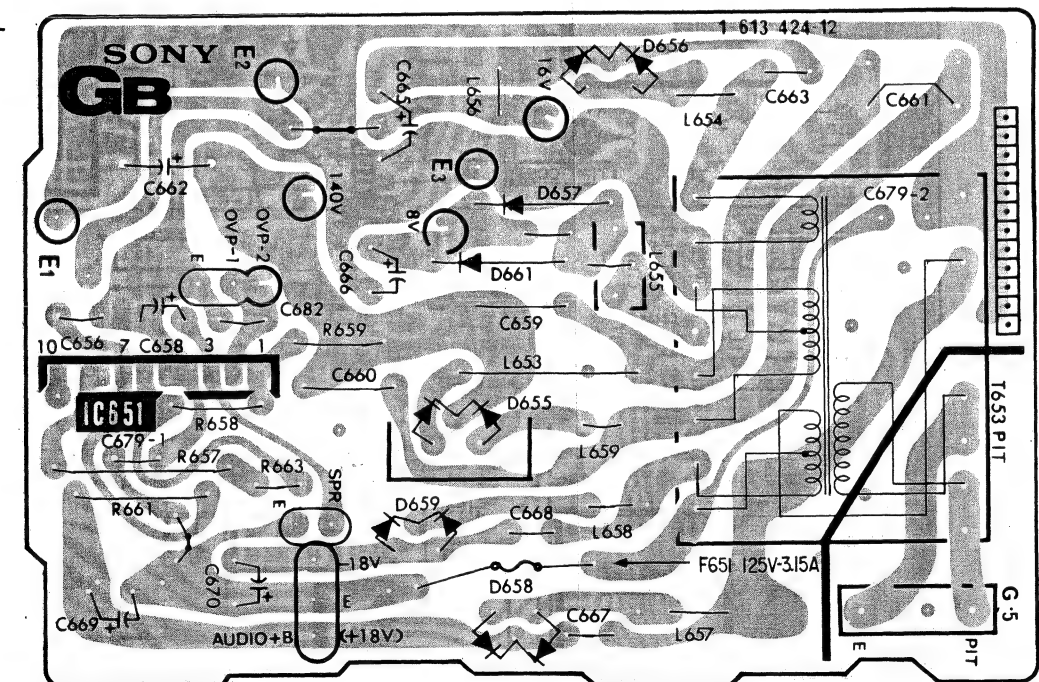


Q-IC	D	ADJ	TP
393			
432	RV302		
419	RV407		
414,404,416	RV405		
417	RV404		
IC402			
421-424			
IC403			
418			
405,406,309			
428,420,306			
407,308,305			
311			
310			
404,403			
303			
IC302			
302			
301			
411,412,413			
409,410,431			
207			
205,206			
IC301			
IC401			
IC24,204			
IC202			
403,313			
109			
408			
IC201			
430			
111			
411			
105			
127			
118			
201			
101			
125			
104			
102			
103,104			
126			
IC107			
IC101			
123			
108			
106			
ICX02			
107			
113			
IC104,IC105			
202			
415			
IC203			
110			
IC103			
251			
251			
204,203			
113,114			
209			
115			
208			
IC106			
111			
Q-IC	D	ADJ	TP

- GA board -



- GB board -



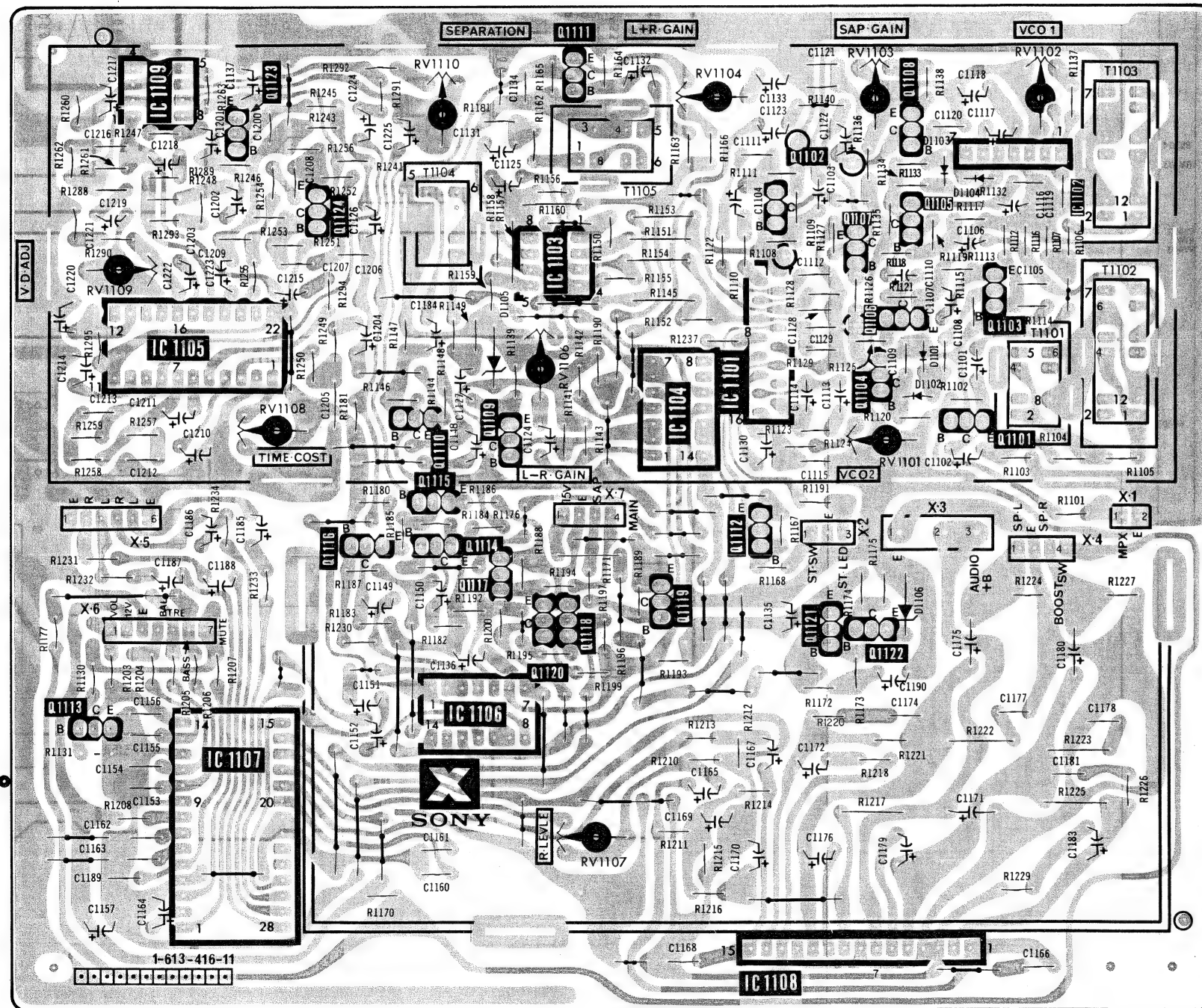
X	[MTS DECODER AUDIO CONTROL AUDIO OUT]			U	[VIDEO SW, AUDIO SW, MTV SW RGB 34PIN, VIDEO-1,3, AUDIO-1,3, MONITOR V, MONITOR A, V-HOLD, H-CENT]			T1	[LED, DISPLAY]	T2	[POWER CONTROL]	T4	[CONNECTOR]	XA	[SAP MUTE]	Z	[PHONE JACK TV OUT VIDEO 2 IN]
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	

- X board -

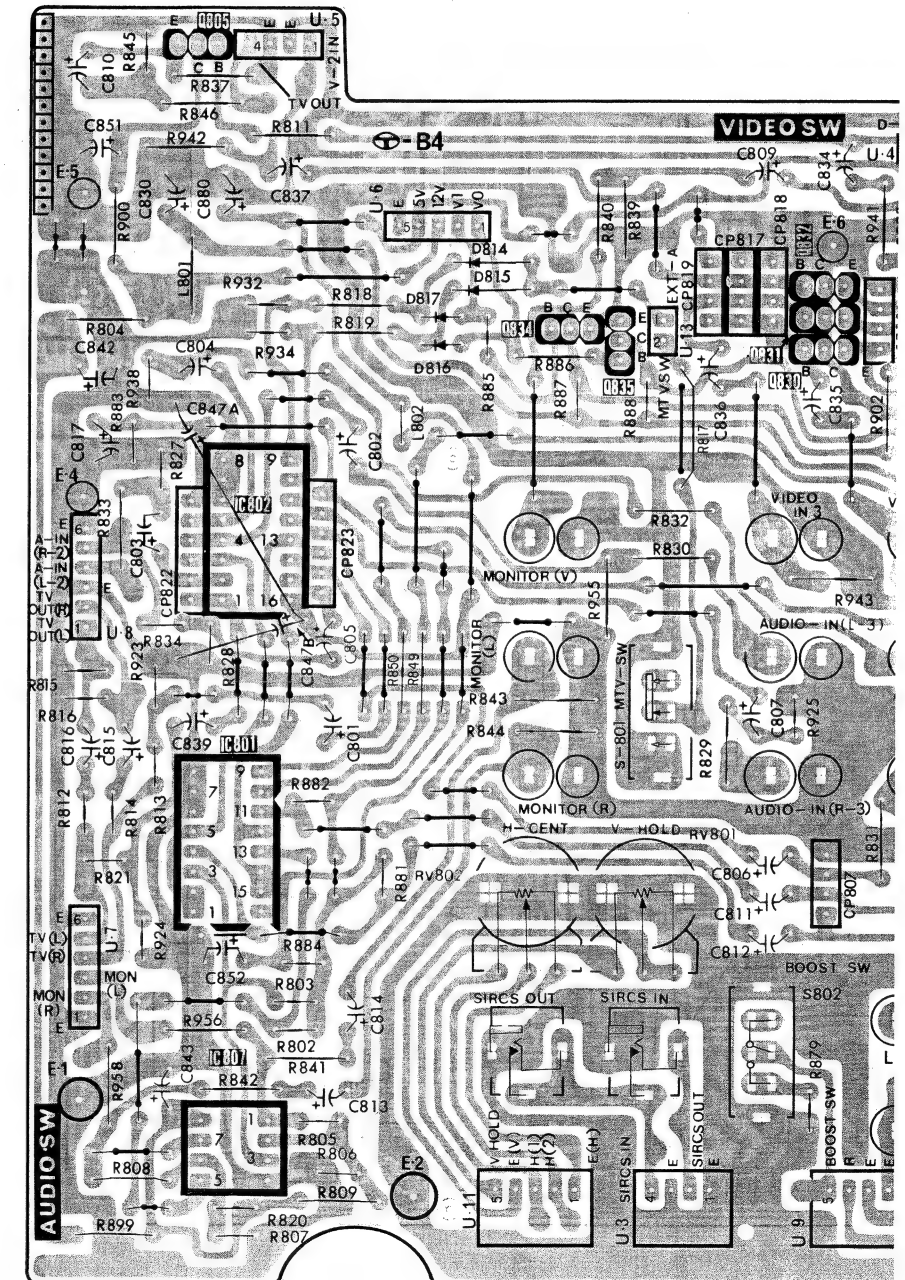
Q	IC	1113	IC1109 IC1105	1123 IC1107	1124	1116	1110 1115 1114 IC1106	1111 IC1103 1120 1118	IC1104 1119	1102 IC1101 1112	IC1108	1107 1104 1121 1122	1108 1106 1105 1103 1101	IC1102
D						1105						1103 1102 1101 1106	1104	
ADJ		RV1109		RV1108		RV1110		RV1106		RV1104		RV1103 RV1101		RV1102

- U board -

Q	IC	805 IC802 IC801 IC807	834 835	832 831 830
D			814 817 815 816	
ADJ				RV802 RV801



I-594-979-11



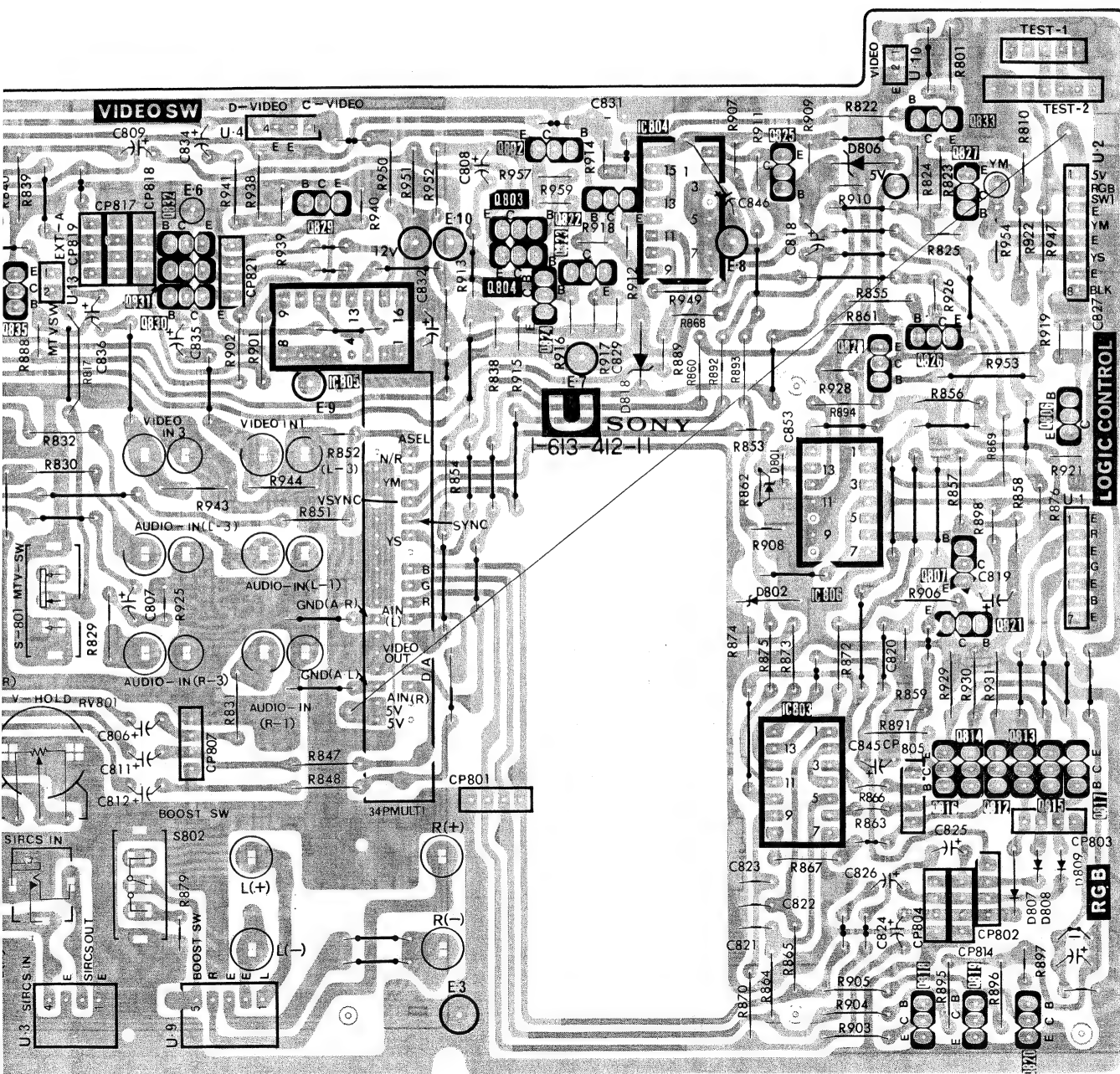
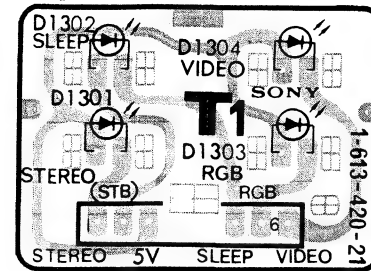
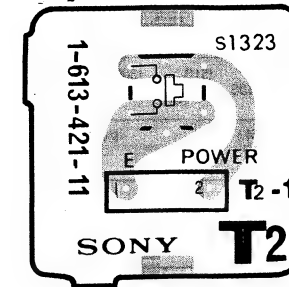
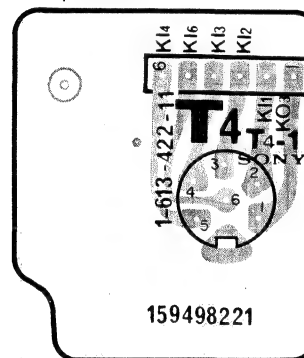
PHONE JACK TV OUT
VIDEO 2 IN

N

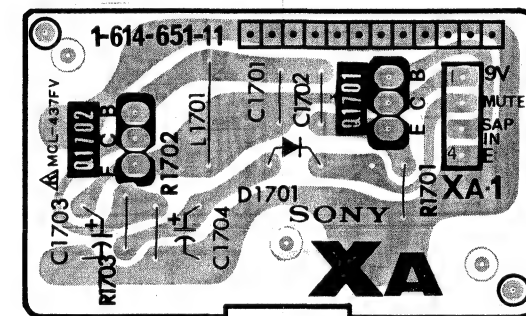
REMOTE CONTROL
HEAD AMP

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

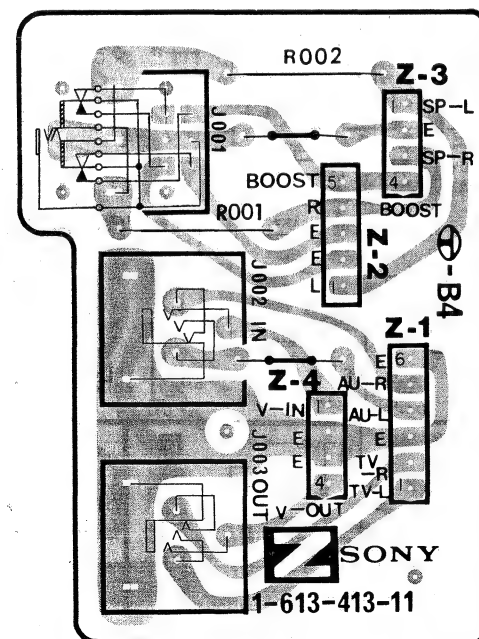
835	832 831 830	829 IC805	802 803 804 824 823	IC804	825	828 IC806 IC803	833 827 826 807 821 816 814 812 813 815 817 818 819 820	806
			818		806 802		807 808 809	
RV801								

- T₁ board -- T₂ board -- T₄ board -

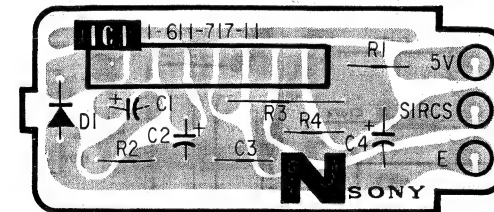
- XA board -



- Z board -



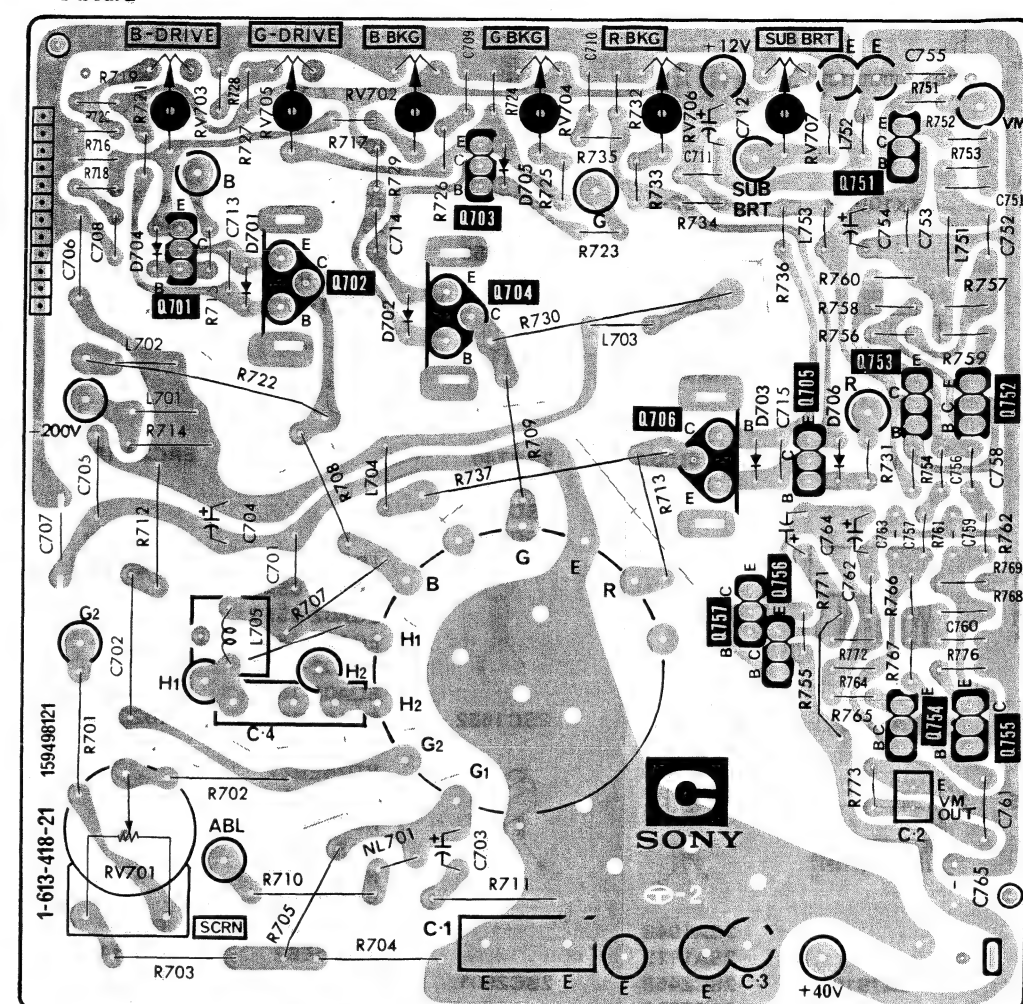
- N board -



[R·G·B OUT, VM]

15

— C board —



5-5. SEMICONDUCTORS

AN6291
CX530-507N
CX-848

CX-7958
μPC1377C

TA7133P

2SA733
2SC1363

2SD1497

CTL-12S
CTU-24S

S1VB10-S
S1VB20

AN78L05
NJM78L05A

CXK1001P

TL4558P-B
μPC4558C

2SB734
2SC2958
2SC2959
2SD774

10E2
EQA02-12B5
EQA02-32A
ES1F
GP08D
HJT33-02
RGP01-17

EM-1ZS
RM2CS

SR632D

CX10026

DM-21
μPC78L05A

2SB740
2SC1475
2SD788
2SD789

1S1555
EQA02-05A5
EQA02-05F5
EQA02-06A5
EQA02-06D5
EQA02-10B5
RD10EN3
RD13EN2
RD24EBZ7
RD33EB2
RD33EB3
RD3.6E-N1
RD3.6E-N2
RD3.9EN2
RD4.7EN2
RD5.6EB2
RD5.6EBZ7S
RD5.6EL2
RD5.6EN1
RD5.6EN2
RD5.6EN3
RD6.2EN1
RD6.2EN2
RD6.2EN3
RD6.2E-B

ERC26-15S

SY432D

CX20014A
CX20100
CX20125
CX526-025

LA3375

2SA1026

2SC1652

ERD29-08J

V19E

CX20106

LA7910

2SA1048
2SA1115
2SC2458
2SC2603
2SC2669

2SC2901

GH3F
GU-3A
U05E
U05G
V11N

PH302B

CX20139
SN74LS05N
SN74LS09N
TC4066BP
TC4071BP
μPD4066BC
μPD4071BC

MC14053BCP
TC4052BP
TC4053BP
TDA1082
μPD4052BC
μPD4053BC
μPD6326C

2SA1175
2SC2785
2SC2785F

2SC3163
2SC3317

1SS119
1SS120
1SS133
1SS148

RH-1A
RH-1Z
RU-2M
SIB01-02

CX23040

STK-4362

2SA1220A
2SC2611
2SC2690A
2SC2752

2SD1406
2SD880

2SD1406
2SD880

2SD1406
2SD880

SECTION 6
EXPLODED VIEWS

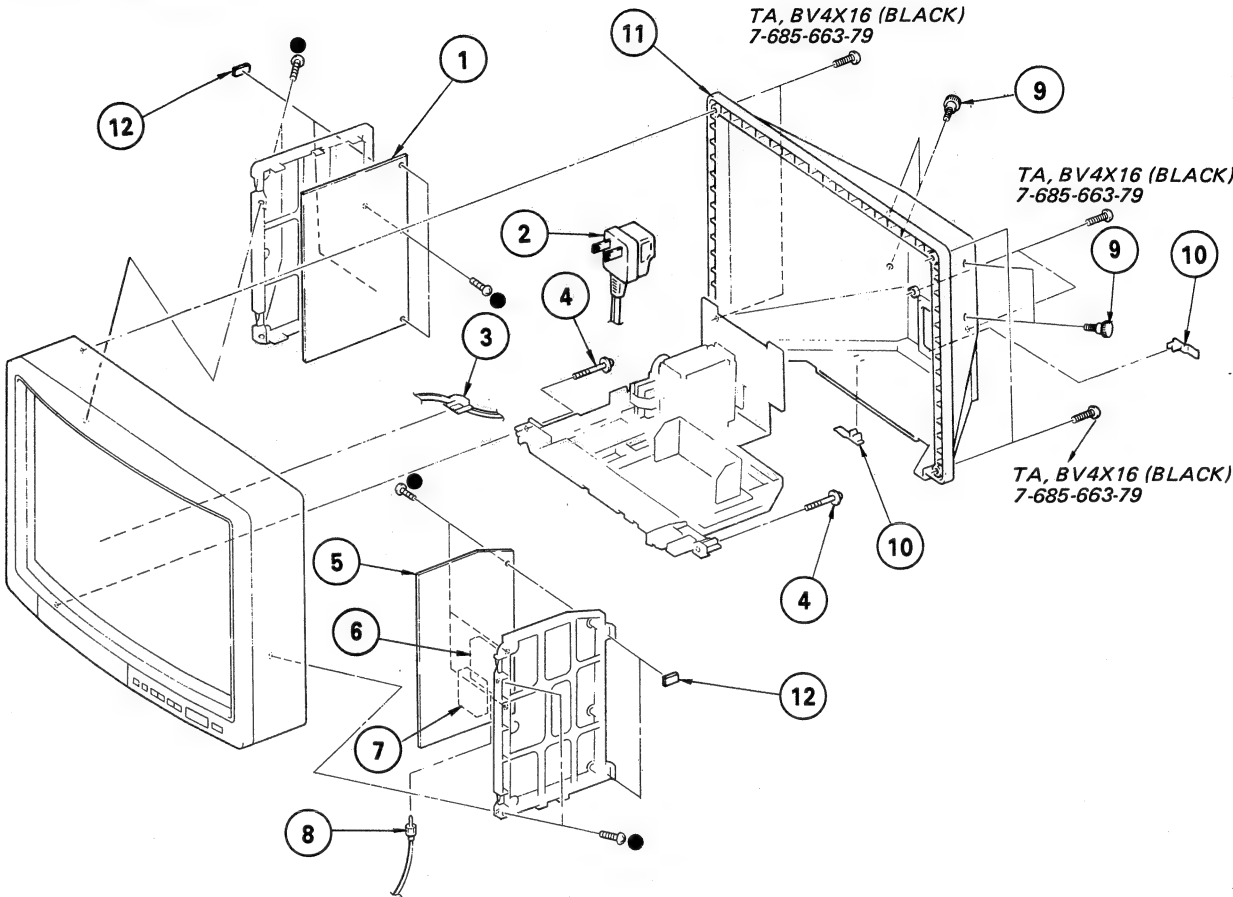
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

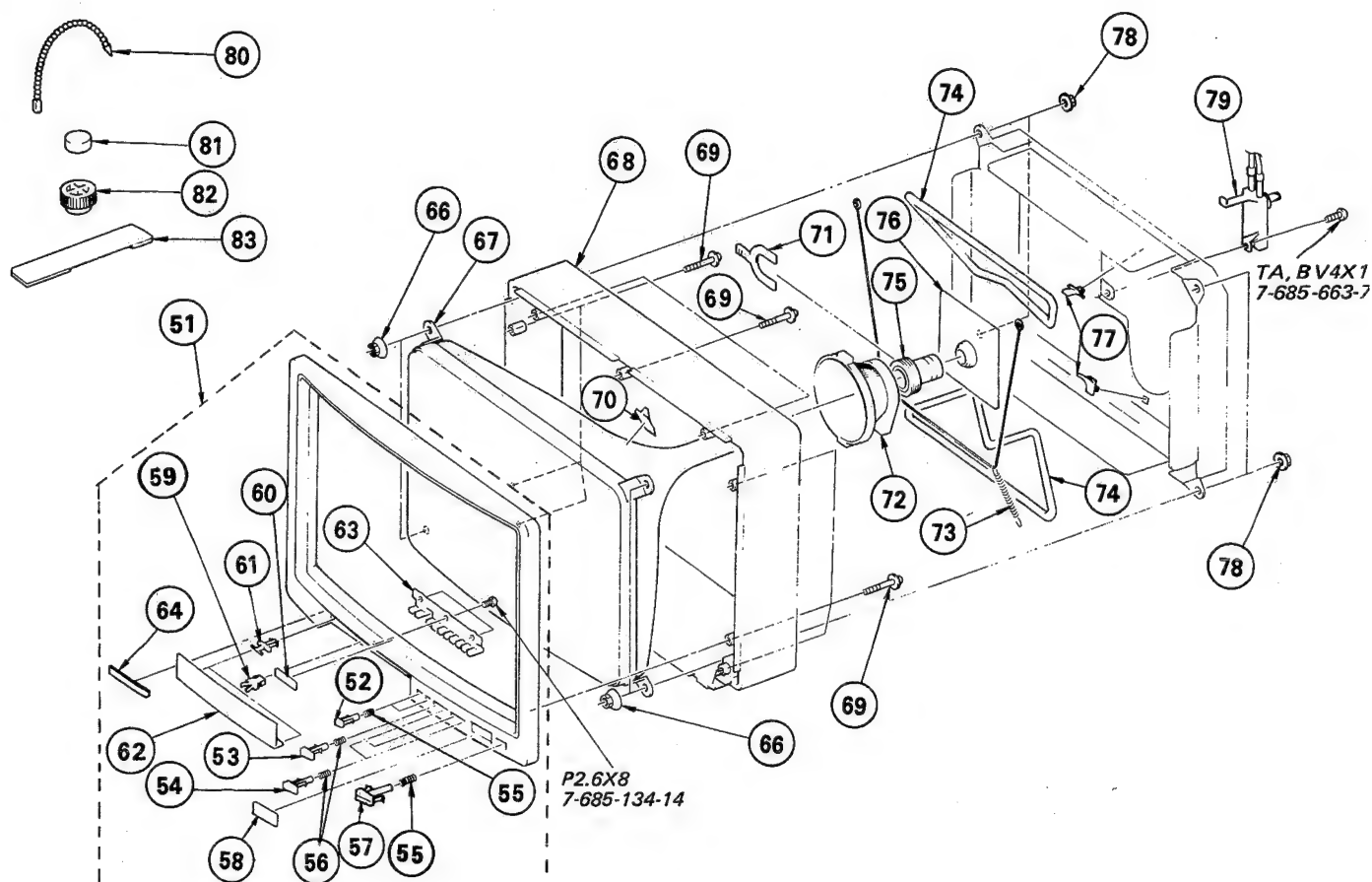
6-1. BACK COVER

• : TA, BV3X12 7-685-648-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	*A-1345-483-A	D BOARD, COMPLETE		7	Δ-1-463-471-32	SYNTHESIZER UNIT, FREQUENCY	
2	Δ-1-557-761-11	CORD, POWER		8	*1-557-056-00	CABLE, P-P	
3	Δ-4-374-307-01	HOLDER, CORD, AC		9	X-4374-104-1	SCREW (B) ASSY, ORNAMENTAL	
4	4-319-520-00	SCREW, SPECIAL (+PW4X30)		10	4-329-127-00	CLAMP, CORD	
5	*A-1295-916-A	A BOARD, COMPLETE		11	X-4374-303-1	COVER ASSY, BACK	9,10
6	Δ-1-463-470-00	TUNER, ET (BT-896)		12	9-911-830-XX	CUSHION, (C)	

6-2. CRT

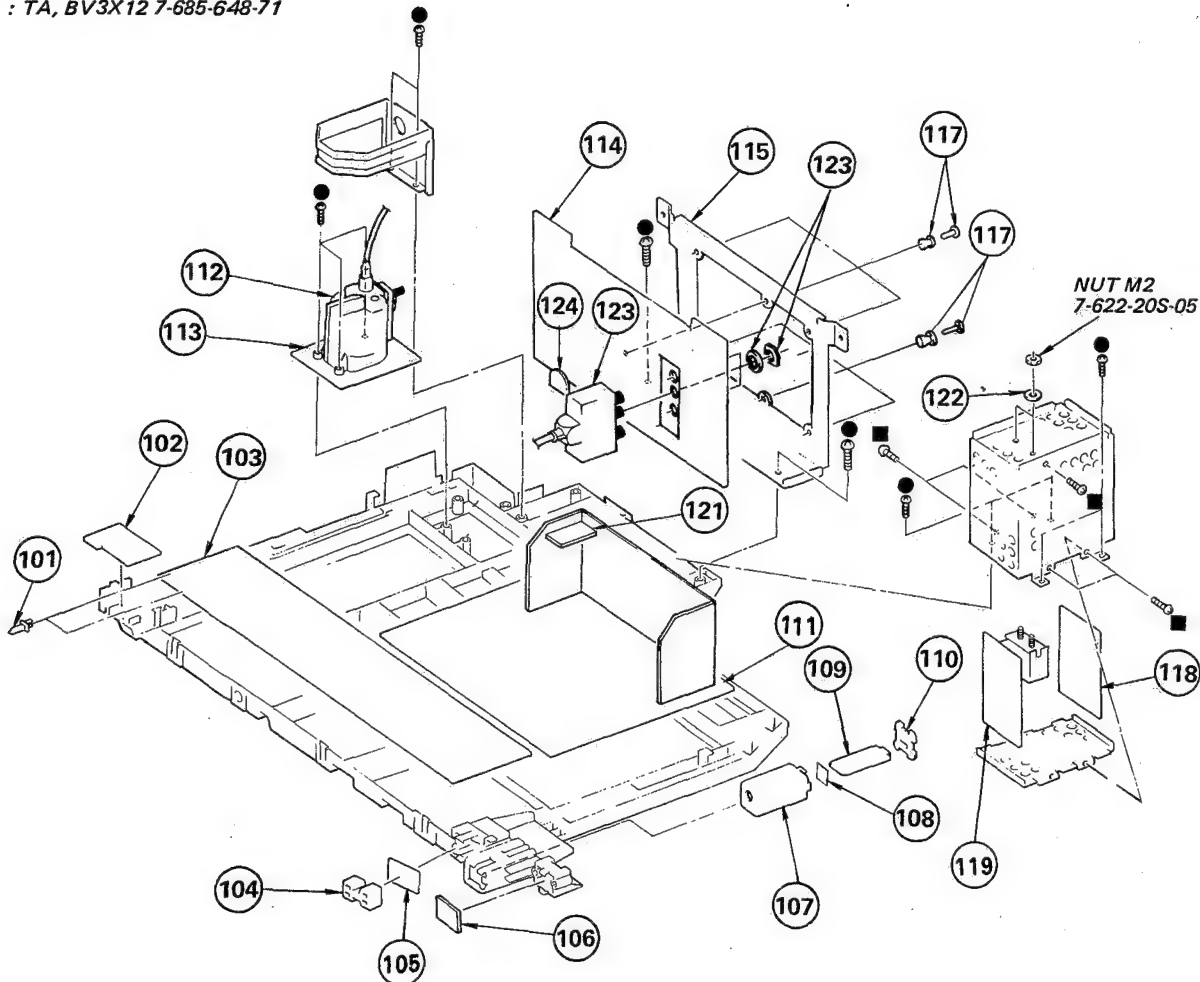


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	X-4374-304-1	BEZEL ASSY		69	4-319-520-00	SCREW, SPECIAL (+PW4X30)	
52	X-4374-101-1	BUTTON (A) ASSY	52-64	70	3-703-003-00	SPACER, DY	
53	X-4374-102-1	BUTTON (B) ASSY		71	1-452-146-21	MAGNET, BMC	
54	X-4374-103-1	BUTTON (C) ASSY		72	▲ 1-451-255-11	DEFLECTION YOKE (SY-164)	
55	3-571-847-00	SPRING, COMPRESSION		73	4-303-774-XX	SPRING	
56	3-561-888-02	SPRING, COMPRESSION		74	▲ 1-426-059-31	COIL, DEGAUSSING	
57	X-4374-301-1	BUTTON ASSY, POWER		75	▲ 1-452-315-21	CRT NECK ASSY (NA303)	
58	*4-374-135-21	PLATE, TRANSPARENT		76	*A-1330-557-A	C BOARD, COMPLETE	
59	4-352-034-00	CATCHER, PUSH		77	*4-371-629-01	STOPPER, WIRE	
60	4-374-115-01	EMBLEM, SONY		78	4-306-034-00	FLANGE NUT, (B) 5MM	
61	3-662-365-00	SHAFT (S), DOOR		79	▲ 1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE	
62	4-374-127-21	DOOR, CONTROL		80	4-308-870-00	CLIP, LEAD WIRE	
63	4-374-151-01	BUTTON, MULTI		81	1-452-032-00	MAGNET, DISK; 10MM ϕ	
64	*4-374-302-01	PLATE, ORNAMENTAL		82	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
66	4-330-305-00	NUT, SPECIAL		83	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
67	▲ 8-736-651-05	CRT (A64JK10X)					
68	X-4374-302-1	CABINET ASSY (FOR PLUM)					
	X-4374-302-2	CABINET ASSY (FOR BEIGE)					

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

6-3. CHASSIS

- : TA, BV3X8 7-685-646-71
- : TA, BV3X12 7-685-648-71



No.	Part No.	Description
101	4-374-146-01	BUTTON, SWITCH
102	*1-613-413-11	Z BOARD
103	*1-613-419-21	M BOARD
104	*4-374-112-01	CAP, LED
105	*1-613-420-21	T1 BOARD
106	*1-613-421-11	T2 BOARD
107	*4-342-117-00	CASE, SHIELD (MAIN), R
108	*4-333-624-00	FILM (N), SPECIAL
109	*1-611-717-11	N BOARD
110	*4-342-118-00	LID, SHIELD CASE, R
111	*A-1386-014-A	X BOARD, COMPLETE

No.	Part No.	Description	Remark
112	▲ 1-439-339-12	TRANSFORMER ASSY, FLYBACK	
113	*1-613-414-11	P BOARD	
114	*A-1381-024-A	U BOARD, COMPLETE	
115	*4-374-310-01	HOLDER, TERMINAL BOARD	
117	4-374-303-01	RIVET, NYLON	
118	*1-613-424-11	GB BOARD	
119	*1-613-423-11	GA BOARD	
121	*1-614-651-11	XA BOARD	
122	3-845-490-00	WASHER	
123	▲ 1-417-125-11	SELECTOR, ANTENNA	
124	*1-613-422-11	T4 BOARD	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

T1

T2

P

T4

GA

GB

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

- Items marked " Δ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS

- MF : μ F, PF : μ F

RESISTORS

- All resistors are in ohms
- F : nonflammable

COILS

- MMH : mH, UH : μ H

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	*1-613-420-21	T1 BOARD *****		C681	1-102-030-00	CERAMIC 330PF 10% 500V	
	*4-345-701-00	HOLDER, LED				DIODE	
		DIODE		D651	8-719-301-18	DIODE RM2CS	
D1301	8-719-106-34	DIODE SR632D		D652	8-719-901-93	DIODE V19E	
D1302	8-719-106-34	DIODE SR632D		D653	8-719-301-18	DIODE RM2CS	
D1303	8-719-114-34	DIODE SY432D		D654	8-719-901-93	DIODE V19E	
D1304	8-719-114-34	DIODE SY432D				CONNECTOR	
*****				G4	*1-508-765-00	3P PLUG (M)	
	*1-613-421-11	T2 BOARD *****				COIL	
		SWITCH		L651	1-425-612-00	COIL, ARE-CORE	
S1323A	1-554-303-11	SWITCH, KEY BOARD		L652	1-425-612-00	COIL, ARE-CORE	
*****				L660	1-425-612-00	COIL, ARE-CORE	
	*1-613-414-11	P BOARD *****		L661	1-425-612-00	COIL, ARE-CORE	
		CAPACITOR				TRANSISTOR	
C901	1-108-431-00	MYLAR 0.068MF 10% 200V		Q651	8-729-902-00	TRANSISTOR 2SC3163	
		NEON LAMP		Q652	8-729-902-00	TRANSISTOR 2SC3163	
NL901	1-519-237-11	LAMP, NEON				RESISTOR	
*****				R651	Δ 1-214-597-61	METAL OXIDE 100K 5% 2W F	
	*1-613-422-11	T4 BOARD *****		R653	1-202-637-00	SOLID 470K 5% 1/2W	
	1-562-684-11	SOCKET, DIN 6P		R655	Δ 1-206-439-61	METAL OXIDE 1 5% 2W F	
*****				R656	1-206-439-00	METAL OXIDE 1 5% 2W F	
	*1-613-423-11	GA BOARD *****		R660	1-202-637-00	SOLID 470K 5% 1/2W	
4-374-104-01		HOLDER, TR		R662	1-207-451-00	WIREWOUND 0.1 10% 1/2W	
4-374-108-01		SPACER, MICA				TRANSFORMER	
		CAPACITOR		T651	Δ 1-421-695-11	CDT	
C651	1-102-038-00	CERAMIC 0.001MF 500V		T652	Δ 1-421-710-11	PRT	
C652	1-136-103-00	FILM 0.1MF 5% 200V		*****			
C653	1-102-038-00	CERAMIC 0.001MF 500V			*1-613-424-11	GB BOARD *****	
C654	1-136-103-00	FILM 0.1MF 5% 200V		F651	Δ 1-532-595-11	FUSE, GLASS TUBE 125V 3.15A	
C655	1-136-131-00	FILM 0.12MF 5% 400V			*1-533-146-00	HOLDER, FUSE	
C672	1-102-038-00	CERAMIC 0.001MF 500V				CAPACITOR	
C673	1-102-038-00	CERAMIC 0.001MF 500V		C656	1-106-196-00	MYLAR 0.01MF 10% 100V	
C675	1-102-038-00	CERAMIC 0.001MF 500V		C658	1-123-356-00	ELECT 10MF 20% 50V	
C677	1-102-038-00	CERAMIC 0.001MF 500V		C659	1-129-710-00	FILM 0.0047MF 10% 630V	
C680	1-102-030-00	CERAMIC 330PF 10% 500V		C660	1-129-710-00	FILM 0.0047MF 10% 630V	
				C661	1-136-240-11	FILM 0.014MF 5% 1KV	
				C662	1-125-294-00	ELECT(BLOCK) 560MF 20% 160V	
				C663	1-102-038-00	CERAMIC 0.001MF 500V	
				C664	1-102-038-00	CERAMIC 0.001MF 500V	
				C665	1-123-338-00	ELECT 2200MF 20% 25V	
				C666	1-123-324-00	ELECT 1000MF 20% 16V	
				C667	1-102-038-00	CERAMIC 0.001MF 500V	

GB

N

A

Ref.No.	Part No.	Description	Remark
C669	1-123-363-00	ELECT 470MF 20% 50V	

DIODE

D655	8-719-300-09	DIODE CTU-24S	
	*4-347-706-00	HEAT SINK (TR), D655	
D656	8-719-301-09	DIODE CTL-12S	
D657	8-719-302-00	DIODE RU-2M	
D658	8-719-301-09	DIODE CTL-12S	
D661	8-719-302-00	DIODE RU-2M	

CONNECTOR

G5	*1-508-765-00	3P PLUG (M)	
----	---------------	-------------	--

MODULE

IC651A	1-235-445-11	MODULE, POWER (DM-21)	
--------	--------------	-----------------------	--

COIL

L653	1-407-780-00	COIL, SPOOK CHOKE	
L654	1-407-365-00	COIL, CHOKE	
L655	1-407-690-00	MICRO INDUCTOR 5.6UH	
L656	1-459-406-00	COIL (WITH CORE)	
L657	1-407-365-00	COIL, CHOKE	
L659	1-407-780-00	COIL, SPOOK CHOKE	

RESISTOR

R657	1-215-969-51	METAL 18K 1W	
R658	1-211-427-11	CARBON 100 5% 1/8W F	
R659	1-247-807-00	CARBON 100 5% 1/8W F	
R661	1-202-657-15	SOLID 3.3M 5% 1/2W	
R663	1-215-968-21	METAL 15K 1W	

TRANSFORMER

T653	1-421-703-12	PIT	
------	--------------	-----	--

*1-611-717-11 N BOARD

CAPACITOR

C1	1-123-611-00	ELECT 1MF 20% 50V	
C2	1-123-613-00	ELECT 3.3MF 20% 50V	
C3	1-102-820-00	CERAMIC 330PF 5% 50V	
C4	1-123-821-00	ELECT 47MF 20% 16V	

DIODE

D1	8-719-110-32	DIODE PH302B	
----	--------------	--------------	--

IC

IC1	8-752-010-60	IC CX20106	
-----	--------------	------------	--

Ref.No.	Part No.	Description	Remark
---------	----------	-------------	--------

RESISTOR

R1	1-247-799-00	CARBON 47 5% 1/6W	
R2	1-247-775-00	CARBON 4.7 5% 1/6W	
R3	1-214-784-00	METAL 200K 1% 1/4W	
R4	1-247-863-00	CARBON 22K 5% 1/6W	

*A-1295-916-A A BOARD, COMPLETE

A	1-463-471-32	SYNTHESIZER UNIT, FREQUENCY	
	*1-551-382-00	CABLE P-P	

CONNECTOR

A1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
A3	*1-508-766-00	4P PLUG (M)	
A6	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A7	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
A8	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P	
A9	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
A10	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P	
A11	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A12	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
A13	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
A14	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P	
A15	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
A16	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
A18	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
A19	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	

CAPACITOR

C101	1-101-888-00	CERAMIC 68PF 5% 50V	
C102	1-101-888-00	CERAMIC 68PF 5% 50V	
C103	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C104	1-123-447-00	ELECT 0.22MF 20% 50V	
C106	1-123-380-00	ELECT 1MF 20% 50V	
C107	1-123-318-00	ELECT 33MF 20% 16V	
C108	1-101-001-00	CERAMIC 0.001MF 50V	
C110	1-123-381-00	ELECT 2.2MF 20% 50V	
C111	1-123-381-00	ELECT 2.2MF 20% 50V	
C112	1-123-381-00	ELECT 2.2MF 20% 50V	
C113	1-102-976-00	CERAMIC 180PF 5% 50V	
C114	1-102-976-00	CERAMIC 180PF 5% 50V	
C116	1-123-369-00	ELECT 4.7MF 20% 25V	
C117	1-101-880-00	CERAMIC 47PF 5% 50V	
C118	1-101-884-00	CERAMIC 56PF 5% 50V	
C119	1-102-976-00	CERAMIC 180PF 5% 50V	
C120	1-102-976-00	CERAMIC 180PF 5% 50V	
C121	1-101-003-00	CERAMIC 0.0047MF 50V	
C122	1-101-004-00	CERAMIC 0.01MF 50V	
C123	1-123-356-00	ELECT 10MF 20% 16V	

The components identified
by shading and mark **A** are
critical for safety.
Replace only with part
number specified.

A

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
C124	1-123-356-00	ELECT	10MF	20%	50V	C221	1-161-013-00	CERAMIC	0.01MF	10%	25V
C125	1-123-380-00	ELECT	1MF	20%	50V	C222	1-123-379-00	ELECT	0.47MF	20%	50V
C126	1-123-380-00	ELECT	1MF	20%	50V	C223	1-123-356-00	ELECT	10MF	20%	16V
C127	1-123-380-00	ELECT	1MF	20%	50V	C226	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C128	1-123-380-00	ELECT	1MF	20%	50V	C228	1-123-330-00	ELECT	22MF	20%	16V
C129	1-119-129-00	ELECT	100MF		16V	C231	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C130	1-123-324-00	ELECT	1000MF	20%	16V	C232	1-102-959-00	CERAMIC	22PF	5%	50V
C131	1-123-318-00	ELECT	33MF	20%	16V	C233	1-102-959-00	CERAMIC	22PF	5%	50V
C132	1-101-003-00	CERAMIC	0.0047MF		50V	C234	1-123-379-00	ELECT	0.47MF	20%	50V
C133	1-101-003-00	CERAMIC	0.0047MF		50V	C235	1-123-379-00	ELECT	0.47MF	20%	50V
C134	1-123-333-00	ELECT	100MF	20%	16V	C236	1-123-318-00	ELECT	33MF	20%	16V
C135	1-101-003-00	CERAMIC	0.0047MF		50V	C237	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C137	1-123-356-00	ELECT	10MF	20%	16V	C238	1-123-381-00	ELECT	2.2MF	20%	50V
C138	1-123-356-00	ELECT	10MF	20%	16V	C239	1-102-752-61	CERAMIC	30PF	5%	50V
C139	1-123-356-00	ELECT	10MF	20%	16V	C240	1-121-257-00	ELECT	4.7MF		16V
C140	1-101-001-00	CERAMIC	0.001MF		50V	C241	1-102-973-00	CERAMIC	100PF	5%	50V
C141	1-101-002-00	CERAMIC	0.0022MF		50V	C243	1-102-816-00	CERAMIC	120PF	5%	50V
C142	1-106-190-00	MYLAR	0.0056MF	10%	100V	C244	1-123-318-00	ELECT	33MF	20%	16V
C143	1-123-309-00	ELECT	330MF	20%	10V	C245	1-123-333-00	ELECT	100MF	20%	16V
C144	1-101-004-00	CERAMIC	0.01MF		50V	C246	1-123-318-00	ELECT	33MF	20%	16V
C145	1-101-004-00	CERAMIC	0.01MF		50V	C247	1-123-333-00	ELECT	100MF	20%	16V
C146	1-101-004-00	CERAMIC	0.01MF		50V	C248	1-102-074-00	CERAMIC	0.001MF	10%	50V
C147	1-101-001-00	CERAMIC	0.001MF		50V	C249	1-123-380-00	ELECT	1MF	20%	50V
C149	1-101-004-00	CERAMIC	0.01MF		50V	C250	1-123-318-00	ELECT	33MF	20%	16V
C150	1-101-004-00	CERAMIC	0.01MF		50V	C251	1-123-333-00	ELECT	100MF	20%	16V
C151	1-119-135-00	ELECT	220MF		16V	C252	1-123-306-00	ELECT	47MF	20%	6.3V
C152	1-123-356-00	ELECT	10MF	20%	16V	C301	1-123-356-00	ELECT	10MF	20%	16V
C153	1-123-333-00	ELECT	100MF	20%	16V	C302	1-102-962-00	CERAMIC	30PF	5%	50V
C154	1-123-356-00	ELECT	10MF	20%	16V	C303	1-101-884-00	CERAMIC	56PF	5%	50V
C155	1-161-323-00	CERAMIC	0.001MF	10%	50V	C304	1-123-380-00	ELECT	1MF	20%	50V
C156	1-123-356-00	ELECT	10MF	20%	16V	C305	1-123-380-00	ELECT	1MF	20%	50V
C157	1-123-380-00	ELECT	1MF	20%	50V	C306	1-123-356-00	ELECT	10MF	20%	25V
C158	1-106-180-00	MYLAR	0.0022MF	10%	100V	C307	1-123-369-00	ELECT	4.7MF	20%	25V
C159	1-102-824-00	CERAMIC	470PF	5%	50V	C308	1-102-129-00	CERAMIC	0.01MF	10%	50V
C201	1-102-121-00	CERAMIC	0.0022MF	10%	50V	C309	1-102-973-00	CERAMIC	100PF	5%	50V
C202	1-102-128-00	CERAMIC	0.0082MF	10%	50V	C310	1-123-330-00	ELECT	22MF	20%	16V
C203	1-102-851-00	CERAMIC	15PF	5%	50V	C311	1-161-047-00	CERAMIC	0.0047MF	10%	50V
C204	1-102-525-00	CERAMIC	68PF	5%	50V	C312	1-123-447-00	ELECT	0.22MF	20%	50V
C205	1-123-318-00	ELECT	33MF	20%	16V	C313	1-123-447-00	ELECT	0.22MF	20%	50V
C206	1-123-318-00	ELECT	33MF	20%	16V	C314	1-101-004-00	CERAMIC	0.01MF		50V
C207	1-101-884-00	CERAMIC	56PF	5%	50V	C315	1-123-356-00	ELECT	10MF	20%	16V
C208	1-161-059-00	CERAMIC	0.047MF	10%	25V	C316	1-101-888-00	CERAMIC	68PF	5%	50V
C209	1-102-824-00	CERAMIC	470PF	5%	50V	C317	1-102-865-00	CERAMIC	8PF	0.5PF	50V
C211	1-102-121-00	CERAMIC	0.0022MF	10%	50V	C318	1-102-074-00	CERAMIC	0.001MF	10%	50V
C212	1-101-004-00	CERAMIC	0.01MF		50V	C319	1-123-379-00	ELECT	0.47MF	20%	50V
C213	1-161-059-00	CERAMIC	0.047MF	10%	25V	C320	1-121-806-00	ELECT	10MF		16V
C214	1-102-121-00	CERAMIC	0.0022MF	10%	50V	C321	1-123-379-00	ELECT	0.47MF	20%	50V
C215	1-102-121-00	CERAMIC	0.0022MF	10%	50V	C322	1-123-286-00	ELECT	0.33MF	20%	50V
C216	1-102-525-00	CERAMIC	68PF	5%	50V	C323	1-123-379-00	ELECT	0.47MF	20%	50V
C217	1-123-586-00	ELECT	0.1MF	20%	50V	C324	1-123-357-00	ELECT	22MF	20%	50V
C218	1-123-586-00	ELECT	0.1MF	20%	50V	C325	1-123-380-00	ELECT	1MF	20%	50V
C219	1-102-634-11	CERAMIC	8PF	0.5PF	50V	C326	1-102-953-00	CERAMIC	18PF	5%	50V
C220	1-102-637-00	CERAMIC	12PF	5%	50V	C328	1-161-265-00	CERAMIC	33PF	5%	50V

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C330	1-123-333-00	ELECT	100MF 20% 16V	D205	8-719-911-19	DIODE 1SS119	
C331	1-101-888-00	CERAM IC	68PF 5% 50V	D251	8-719-102-71	DIODE RD5.6E-N2	
C332	1-102-965-00	CERAM IC	39PF 5% 50V	D402	8-719-911-19	DIODE 1SS119	
C333	1-123-323-00	ELECT	470MF 20% 16V	D403	8-719-911-19	DIODE 1SS119	
C334	1-123-380-00	ELECT	1MF 20% 50V	D404	8-719-911-19	DIODE 1SS119	
C338	1-101-884-00	CERAM IC	56PF 5% 50V	D405	8-719-911-19	DIODE 1SS119	
C391	1-106-196-00	MYLAR	0.01MF 10% 100V	D406	8-719-911-19	DIODE 1SS119	
C392	1-102-971-00	CERAM IC	82PF 5% 50V	D407	8-719-911-19	DIODE 1SS119	
C393	1-123-356-00	ELECT	10MF 20% 16V	D408	8-719-911-19	DIODE 1SS119	
C401	1-123-356-00	ELECT	10MF 20% 16V	D409	8-719-911-19	DIODE 1SS119	
C402	1-123-356-00	ELECT	10MF 20% 16V	D411	8-719-911-19	DIODE 1SS119	
C403	1-123-356-00	ELECT	10MF 20% 16V				
C404	1-123-330-00	ELECT	22MF 20% 16V			DELAY LINE	
C405	1-101-003-00	CERAM IC	0.0047MF 50V	DL301	1-415-356-11	DELAY LINE, 1H	
C406	1-123-379-00	ELECT	0.47MF 20% 50V	DL302	1-415-388-11	DELAY LINE, Y	
C407	1-123-379-00	ELECT	0.47MF 20% 50V			IC	
C408	1-123-379-00	ELECT	0.47MF 20% 50V	IC101	8-759-103-07	IC CX526-025	
C410	1-101-004-00	CERAM IC	0.01MF 50V	IC102	8-759-800-65	IC LA7910	
C411	1-123-356-00	ELECT	10MF 20% 50V	IC103	8-759-912-82	IC CX530-507N	
C412	1-123-369-00	ELECT	4.7MF 20% 50V	IC104	8-759-909-50	IC CX7958	
C413	1-106-184-00	MYLAR	0.0033MF 10% 100V	IC105	8-759-140-71	IC UPD4071BC	
C417	1-123-379-00	ELECT	0.47MF 20% 50V	IC106	8-752-320-11	IC CXK1001P	
C418	1-101-003-00	CERAM IC	0.0047MF 50V	IC107	8-759-102-28	IC UPD6326C	
C419	1-123-332-00	ELECT	47MF 20% 16V	IC201	8-752-001-41	IC CX20014A	
C421	1-123-380-00	ELECT	1MF 20% 50V	IC202	8-752-013-90	IC CX20139	
C423	1-102-820-00	CERAM IC	330PF 5% 50V	IC203	8-759-108-05	IC UPC78L05A	
C424	1-123-356-00	ELECT	10MF 20% 16V	IC301	8-758-480-00	IC CX848	
C426	1-123-356-00	ELECT	10MF 20% 16V	IC302	8-759-913-11	IC CX20125	
C427	1-101-001-00	CERAM IC	0.001MF 50V	IC401	8-752-010-00	IC CX20100	
C428	1-101-884-00	CERAM IC	56PF 5% 50V	IC402	8-759-040-53	IC MC14053BCP	
				IC403	8-759-145-58	IC UPC4558C	
		FILTER				COIL	
CF201	1-409-332-00	CERAM IC TRAP (4.5MHZ)		L101	1-407-717-00	MICRO INDUCTOR 1MMH	
CF202	1-527-943-00	FILTER, CERAMIC		L102	1-404-538-11	COIL	
		TRIMMER		L103	1-408-398-00	MICRO INDUCTOR 1.2UH	
CV316	1-141-147-XX	CAP, TRIMMER		L104	1-408-403-00	MICRO INDUCTOR 3.3UH	
		DIODE		L105	1-408-403-00	MICRO INDUCTOR 3.3UH	
D101	8-719-911-19	DIODE 1SS119		L107	1-410-016-11	MICRO INDUCTOR 3.9UH	
D102	8-759-300-42	IC HZ T33-02		L108	1-410-016-11	MICRO INDUCTOR 3.9UH	
D103	8-719-102-60	DIODE RD3.9E-N2		L109	1-410-016-11	MICRO INDUCTOR 3.9UH	
D104	8-719-102-60	DIODE RD3.9E-N2		L110	1-408-462-11	MICRO INDUCTOR 470UH	
D108	8-719-911-19	DIODE 1SS119		L111	1-408-450-11	MICRO INDUCTOR 47UH	
D109	8-719-911-19	DIODE 1SS119		L112	1-408-454-00	MICRO INDUCTOR 100UH	
D110	8-719-911-19	DIODE 1SS119		L201	1-408-408-00	MICRO INDUCTOR 8.2UH	
D111	8-719-102-65	DIODE RD4.7E-N2		L202	1-408-709-00	MICRO INDUCTOR 0.68UH	
D112	8-719-101-04	DIODE RD33E-B2		L203	1-410-073-11	MICRO INDUCTOR 0.22UH	
D113	8-719-911-19	DIODE 1SS119		L204	1-408-408-00	MICRO INDUCTOR 8.2UH	
D117	8-719-102-70	DIODE RD5.6E-N1		L205	1-408-445-11	MICRO INDUCTOR 18UH	
D202	8-719-911-19	DIODE 1SS119		L206	1-408-411-00	MICRO INDUCTOR 15UH	
D203	8-719-102-91	DIODE RD10E-N3		L207	1-408-402-00	MICRO INDUCTOR 2.7UH	
D204	8-719-103-06	DIODE RD13E-N2		L208	1-408-409-00	MICRO INDUCTOR 10UH	

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
L301	1-408-450-11	MICRO INDUCTOR 47UH		Q309	8-729-245-83	TRANSISTOR 2SC2458	
L302	1-408-416-00	MICRO INDUCTOR 39UH		Q310	8-729-245-83	TRANSISTOR 2SC2458	
L303	1-404-540-11	COIL		Q311	8-729-245-83	TRANSISTOR 2SC2458	
L304	1-408-411-00	MICRO INDUCTOR 15UH		Q313	8-729-204-83	TRANSISTOR 2SA1048GR	
L305	1-408-398-00	MICRO INDUCTOR 1.2UH		Q391	8-729-245-83	TRANSISTOR 2SC2458	
L306	1-408-398-00	MICRO INDUCTOR 1.2UH		Q392	8-729-245-83	TRANSISTOR 2SC2458	
L307	1-408-398-00	MICRO INDUCTOR 1.2UH		Q393	8-729-245-83	TRANSISTOR 2SC2458	
L308	1-408-163-00	MICRO INDUCTOR 5.6MMH		Q394	8-729-245-83	TRANSISTOR 2SC2458	
L309	1-408-456-11	MICRO INDUCTOR 150UH		Q403	8-729-204-83	TRANSISTOR 2SA1048GR	
L310	1-408-409-00	MICRO INDUCTOR 10UH		Q404	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q405	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q406	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q407	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q408	8-729-245-83	TRANSISTOR 2SC2458	
				Q409	8-729-245-83	TRANSISTOR 2SC2458	
				Q410	8-729-245-83	TRANSISTOR 2SC2458	
				Q411	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q412	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q413	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q414	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q415	8-729-245-83	TRANSISTOR 2SC2458	
				Q416	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q417	8-729-245-83	TRANSISTOR 2SC2458	
				Q418	8-729-245-83	TRANSISTOR 2SC2458	
				Q419	8-729-245-83	TRANSISTOR 2SC2458	
				Q420	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q421	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q422	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q423	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q424	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q426	8-729-245-83	TRANSISTOR 2SC2458	
				Q427	8-729-245-83	TRANSISTOR 2SC2458	
				Q428	8-729-245-83	TRANSISTOR 2SC2458	
				Q429	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q430	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q431	8-729-245-83	TRANSISTOR 2SC2458	
				Q432	8-729-204-83	TRANSISTOR 2SA1048GR	
				RESISTOR			
				R001	1-247-127-00	CARBON 680 5%	1/4W
				R002	1-247-117-00	CARBON 270 5%	1/4W
				R003	1-247-117-00	CARBON 270 5%	1/4W
				R004	1-247-843-00	CARBON 3.3K 5%	1/6W
				R005	1-247-843-00	CARBON 3.3K 5%	1/6W
				R006	1-247-163-00	CARBON 22K 5%	1/4W
				R007	1-246-485-25	CARBON 3.3K 5%	1/4W
				R008	1-246-485-25	CARBON 3.3K 5%	1/4W
				R009	1-247-843-00	CARBON 3.3K 5%	1/6W
				R010	1-246-485-25	CARBON 3.3K 5%	1/4W
				R012	1-247-115-00	CARBON 220 5%	1/4W
				R014	1-247-135-00	CARBON 1.5K 5%	1/4W
				R015	1-247-847-00	CARBON 4.7K 5%	1/6W
				R016	1-247-155-00	CARBON 10K 5%	1/4W

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R106	1-247-847-00	CARBON	4.7K 5% 1/6W	R162	1-247-131-00	CARBON	1K 5% 1/4W
R107	1-247-139-00	CARBON	2.2K 5% 1/4W	R163	1-247-131-00	CARBON	1K 5% 1/4W
R108	1-247-139-00	CARBON	2.2K 5% 1/4W	R164	1-247-839-00	CARBON	2.2K 5% 1/6W
R109	1-247-855-00	CARBON	10K 5% 1/6W	R165	1-247-839-00	CARBON	2.2K 5% 1/6W
R110	1-247-855-00	CARBON	10K 5% 1/6W	R166	1-247-077-00	CARBON	3.3 5% 1/4W
R111	1-247-823-00	CARBON	470 5% 1/6W	R167	1-206-696-00	METAL OXIDE	22K 5% 2W F
R112	1-247-885-00	CARBON	180K 5% 1/6W	R168	1-247-139-00	CARBON	2.2K 5% 1/4W
R113	1-247-855-00	CARBON	10K 5% 1/6W	R169	1-247-155-00	CARBON	10K 5% 1/4W
R114	1-247-139-00	CARBON	2.2K 5% 1/4W	R170	1-247-155-00	CARBON	10K 5% 1/4W
R115	1-247-819-00	CARBON	330 5% 1/6W	R171	1-247-831-00	CARBON	1K 5% 1/6W
R118	1-247-131-00	CARBON	1K 5% 1/4W	R172	1-247-179-00	CARBON	100K 5% 1/4W
R119	1-247-831-00	CARBON	1K 5% 1/6W	R173	1-247-155-00	CARBON	10K 5% 1/4W
R120	1-247-871-00	CARBON	47K 5% 1/6W	R173	1-247-179-00	CARBON	100K 5% 1/4W
R121	1-247-871-00	CARBON	47K 5% 1/6W	R174	1-247-855-00	CARBON	10K 5% 1/6W
R122	1-247-163-00	CARBON	22K 5% 1/4W	R176	1-247-891-00	CARBON	330K 5% 1/6W
R123	1-247-139-00	CARBON	2.2K 5% 1/4W	R177	1-247-855-00	CARBON	10K 5% 1/6W
R124	1-247-849-00	CARBON	5.6K 5% 1/6W	R178	1-247-139-00	CARBON	2.2K 5% 1/4W
R125	1-247-167-00	CARBON	33K 5% 1/4W	R179	1-247-139-00	CARBON	2.2K 5% 1/4W
R126	1-247-851-00	CARBON	6.8K 5% 1/6W	R180	1-247-839-00	CARBON	2.2K 5% 1/6W
R127	1-247-835-00	CARBON	1.5K 5% 1/6W	R181	1-247-839-00	CARBON	2.2K 5% 1/6W
R128	1-247-857-00	CARBON	12K 5% 1/6W	R182	1-247-839-00	CARBON	2.2K 5% 1/6W
R129	1-247-855-00	CARBON	10K 5% 1/6W	R183	1-247-877-00	CARBON	82K 5% 1/6W
R130	1-247-167-00	CARBON	33K 5% 1/4W	R185	1-247-855-00	CARBON	10K 5% 1/6W
R131	1-247-887-00	CARBON	220K 5% 1/6W	R186	1-247-855-00	CARBON	10K 5% 1/6W
R132	1-247-153-00	CARBON	8.2K 5% 1/4W	R187	1-247-839-00	CARBON	2.2K 5% 1/6W
R133	1-247-873-00	CARBON	56K 5% 1/6W	R188	1-247-839-00	CARBON	2.2K 5% 1/6W
R134	1-247-895-00	CARBON	470K 5% 1/6W	R189	1-247-839-00	CARBON	2.2K 5% 1/6W
R135	1-247-895-00	CARBON	470K 5% 1/6W	R190	1-247-855-00	CARBON	10K 5% 1/6W
R136	1-247-889-00	CARBON	270K 5% 1/6W	R191	1-247-843-00	CARBON	3.3K 5% 1/6W
R137	1-247-839-00	CARBON	2.2K 5% 1/6W	R192	1-247-847-00	CARBON	4.7K 5% 1/6W
R138	1-247-131-00	CARBON	1K 5% 1/4W	R193	1-244-877-51	CARBON	1.5K 5% 1/2W
R139	1-247-139-00	CARBON	2.2K 5% 1/4W	R194	1-247-871-00	CARBON	47K 5% 1/6W
R140	1-247-139-00	CARBON	2.2K 5% 1/4W	R196	1-247-871-00	CARBON	47K 5% 1/6W
R142	1-247-107-00	CARBON	100 5% 1/4W	R197	1-247-871-00	CARBON	47K 5% 1/6W
R143	1-247-139-00	CARBON	2.2K 5% 1/4W	R198	1-247-863-00	CARBON	22K 5% 1/6W
R144	1-247-855-00	CARBON	10K 5% 1/6W	R199	1-247-855-00	CARBON	10K 5% 1/6W
R145	1-247-879-00	CARBON	100K 5% 1/6W	R201	1-247-837-00	CARBON	1.8K 5% 1/6W
R146	1-247-123-00	CARBON	470 5% 1/4W	R202	1-247-857-00	CARBON	12K 5% 1/6W
R147	1-247-123-00	CARBON	470 5% 1/4W	R203	1-247-855-00	CARBON	10K 5% 1/6W
R148	1-247-123-00	CARBON	470 5% 1/4W	R204	1-215-457-00	METAL	33K 1% 1/6W
R149	1-246-485-25	CARBON	3.3K 5% 1/4W	R205	1-215-457-00	METAL	33K 1% 1/6W
R150	1-246-485-25	CARBON	3.3K 5% 1/4W	R206	1-247-863-00	CARBON	22K 5% 1/6W
R151	1-247-115-00	CARBON	220 5% 1/4W	R208	1-247-883-00	CARBON	150K 5% 1/6W
R152	1-247-871-00	CARBON	47K 5% 1/6W	R209	1-247-883-00	CARBON	150K 5% 1/6W
R153	1-247-855-00	CARBON	10K 5% 1/6W	R211	1-247-831-00	CARBON	1K 5% 1/6W
R154	1-247-871-00	CARBON	47K 5% 1/6W	R215	1-247-883-00	CARBON	150K 5% 1/6W
R155	1-247-871-00	CARBON	47K 5% 1/6W	R216	1-247-815-00	CARBON	220 5% 1/6W
R156	1-247-887-00	CARBON	220K 5% 1/6W	R218	1-247-845-00	CARBON	3.9K 5% 1/6W
R157	1-247-863-00	CARBON	22K 5% 1/6W	R219	1-247-817-00	CARBON	270 5% 1/6W
R158	1-247-871-00	CARBON	47K 5% 1/6W	R220	1-247-801-00	CARBON	56 5% 1/6W
R159	1-247-889-00	CARBON	270K 5% 1/6W	R221	1-247-822-00	CARBON	430 5% 1/6W
R160	1-247-879-00	CARBON	100K 5% 1/6W	R223	1-247-821-00	CARBON	390 5% 1/6W
R161	1-247-131-00	CARBON	1K 5% 1/4W	R224	1-247-830-00	CARBON	910 5% 1/6W

A

Ref.No.	Part No.	Description				Remark	Ref.No.	Part No.	Description				Remark
R225	1-247-827-00	CARBON	680	5%	1/6W		R331	1-247-807-00	CARBON	100	5%	1/6W	
R226	1-247-807-00	CARBON	100	5%	1/6W		R332	1-247-821-00	CARBON	390	5%	1/6W	
R227	1-247-827-00	CARBON	680	5%	1/6W		R333	1-247-863-00	CARBON	22K	5%	1/6W	
R228	1-247-833-00	CARBON	1.2K	5%	1/6W		R334	1-247-829-00	CARBON	820	5%	1/6W	
R229	1-247-803-00	CARBON	68	5%	1/6W		R335	1-247-831-00	CARBON	1K	5%	1/6W	
R230	1-247-843-00	CARBON	3.3K	5%	1/6W		R336	1-247-897-00	CARBON	560K	5%	1/6W	
R231	1-247-846-00	CARBON	4.3K	5%	1/6W		R337	1-247-895-00	CARBON	470K	5%	1/6W	
R232	1-247-851-00	CARBON	6.8K	5%	1/6W		R339	1-247-819-00	CARBON	330	5%	1/6W	
R234	1-247-839-00	CARBON	2.2K	5%	1/6W		R340	1-247-871-00	CARBON	47K	5%	1/6W	
R235	1-247-819-00	CARBON	330	5%	1/6W		R341	1-247-857-00	CARBON	12K	5%	1/6W	
R236	1-247-107-00	CARBON	100	5%	1/4W		R342	1-247-855-00	CARBON	10K	5%	1/6W	
R237	1-247-795-00	CARBON	33	5%	1/6W		R345	1-247-155-00	CARBON	10K	5%	1/4W	
R238	1-247-847-00	CARBON	4.7K	5%	1/6W		R346	1-247-115-00	CARBON	220	5%	1/4W	
R239	1-247-819-00	CARBON	330	5%	1/6W		R347	1-247-839-00	CARBON	2.2K	5%	1/6W	
R241	1-212-367-00	METAL OXIDE	3.9	5%	1W	F	R348	1-247-815-00	CARBON	220	5%	1/6W	
R242	1-206-495-00	METAL OXIDE	2.2	5%	3W	F	R349	1-247-871-00	CARBON	47K	5%	1/6W	
R243	1-247-821-00	CARBON	390	5%	1/6W		R350	1-247-815-00	CARBON	220	5%	1/6W	
R244	1-247-115-00	CARBON	220	5%	1/4W		R351	1-247-829-00	CARBON	820	5%	1/6W	
R245	1-247-831-00	CARBON	1K	5%	1/6W		R352	1-247-155-00	CARBON	10K	5%	1/4W	
R250	1-206-453-00	METAL OXIDE	3.9	5%	2W	F	R353	1-247-863-00	CARBON	22K	5%	1/6W	
R251	1-247-119-00	CARBON	330	5%	1/4W		R354	1-246-537-00	CARBON	470K	5%	1/4W	
R256	1-247-025-00	CARBON	3.9	5%	1/8W	F	R355	1-247-815-00	CARBON	220	5%	1/6W	
R300	1-247-807-00	CARBON	100	5%	1/6W		R356	1-246-517-25	CARBON	68K	5%	1/4W	
R301	1-247-867-00	CARBON	33K	5%	1/6W		R357	1-247-903-00	CARBON	1M	5%	1/6W	
R302	1-247-865-00	CARBON	27K	5%	1/6W		R359	1-247-827-00	CARBON	680	5%	1/6W	
R303	1-247-833-00	CARBON	1.2K	5%	1/6W		R360	1-247-827-00	CARBON	680	5%	1/6W	
R304	1-247-823-00	CARBON	470	5%	1/6W		R361	1-247-823-00	CARBON	470	5%	1/6W	
R305	1-247-833-00	CARBON	1.2K	5%	1/6W		R362	1-247-833-00	CARBON	1.2K	5%	1/6W	
R306	1-247-835-00	CARBON	1.5K	5%	1/6W		R363	1-247-819-00	CARBON	330	5%	1/6W	
R307	1-247-827-00	CARBON	680	5%	1/6W		R364	1-247-833-00	CARBON	1.2K	5%	1/6W	
R308	1-247-827-00	CARBON	680	5%	1/6W		R365	1-247-837-00	CARBON	1.8K	5%	1/6W	
R309	1-247-827-00	CARBON	680	5%	1/6W		R366	1-247-841-00	CARBON	2.7K	5%	1/6W	
R310	1-247-827-00	CARBON	680	5%	1/6W		R367	1-247-847-00	CARBON	4.7K	5%	1/6W	
R311	1-247-833-00	CARBON	1.2K	5%	1/6W		R377	1-247-123-00	CARBON	470	5%	1/4W	
R312	1-247-833-00	CARBON	1.2K	5%	1/6W		R380	1-247-867-00	CARBON	33K	5%	1/6W	
R313	1-247-835-00	CARBON	1.5K	5%	1/6W		R381	1-247-867-00	CARBON	33K	5%	1/6W	
R314	1-247-835-00	CARBON	1.5K	5%	1/6W		R382	1-247-855-00	CARBON	10K	5%	1/6W	
R315	1-247-833-00	CARBON	1.2K	5%	1/6W		R391	1-247-865-00	CARBON	27K	5%	1/6W	
R316	1-247-833-00	CARBON	1.2K	5%	1/6W		R393	1-247-815-00	CARBON	220	5%	1/6W	
R317	1-247-831-00	CARBON	1K	5%	1/6W		R394	1-247-819-00	CARBON	330	5%	1/6W	
R318	1-247-841-00	CARBON	2.7K	5%	1/6W		R395	1-247-835-00	CARBON	1.5K	5%	1/6W	
R319	1-247-841-00	CARBON	2.7K	5%	1/6W		R396	1-247-831-00	CARBON	1K	5%	1/6W	
R320	1-247-841-00	CARBON	2.7K	5%	1/6W		R397	1-247-855-00	CARBON	10K	5%	1/6W	
R321	1-247-899-00	CARBON	680K	5%	1/6W		R398	1-247-855-00	CARBON	10K	5%	1/6W	
R322	1-247-865-00	CARBON	27K	5%	1/6W		R401	1-247-115-00	CARBON	220	5%	1/4W	
R323	1-247-145-00	CARBON	3.9K	5%	1/4W		R402	1-247-115-00	CARBON	220	5%	1/4W	
R324	1-247-119-00	CARBON	330	5%	1/4W		R403	1-247-115-00	CARBON	220	5%	1/4W	
R325	1-247-863-00	CARBON	22K	5%	1/6W		R404	1-247-849-00	CARBON	5.6K	5%	1/6W	
R326	1-247-843-00	CARBON	3.3K	5%	1/6W		R405	1-247-839-00	CARBON	2.2K	5%	1/6W	
R327	1-247-845-00	CARBON	3.9K	5%	1/6W		R406	1-247-833-00	CARBON	1.2K	5%	1/6W	
R328	1-247-829-00	CARBON	820	5%	1/6W		R408	1-247-839-00	CARBON	2.2K	5%	1/6W	
R329	1-247-839-00	CARBON	2.2K	5%	1/6W		R410	1-215-406-00	METAL	240	1%	1/6W	
R330	1-247-831-00	CARBON	1K	5%	1/6W		R411	1-214-717-00	METAL	330	1%	1/4W	

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R412	1-247-831-00	CARBON	1K 5% 1/6W	R477	1-247-131-00	CARBON	1K 5% 1/4W
R414	1-247-179-00	CARBON	100K 5% 1/4W	R478	1-247-131-00	CARBON	1K 5% 1/4W
R416	1-246-523-00	CARBON	120K 5% 1/4W	R479	1-247-147-00	CARBON	4.7K 5% 1/4W
R417	1-247-163-00	CARBON	22K 5% 1/4W	R480	1-215-406-00	METAL	240 1% 1/6W
R418	1-247-855-00	CARBON	10K 5% 1/6W	R481	1-247-805-00	CARBON	82 5% 1/6W
R419	1-247-179-00	CARBON	100K 5% 1/4W	R482	1-247-843-00	CARBON	3.3K 5% 1/6W
R420	1-247-847-00	CARBON	4.7K 5% 1/6W	R483	1-247-843-00	CARBON	3.3K 5% 1/6W
R421	1-214-717-00	METAL	330 1% 1/4W	R486	1-247-815-00	CARBON	220 5% 1/6W
R422	1-247-163-00	CARBON	22K 5% 1/4W	R487B	1-247-804-00	CARBON	75 5% 1/6W
R423	1-247-871-00	CARBON	47K 5% 1/6W	R488	1-247-139-00	CARBON	2.2K 5% 1/4W
R424	1-247-131-00	CARBON	1K 5% 1/4W	R490	1-247-863-00	CARBON	22K 5% 1/6W
R425	1-247-839-00	CARBON	2.2K 5% 1/6W	R493	1-247-863-00	CARBON	22K 5% 1/6W
R426	1-247-177-00	CARBON	82K 5% 1/4W	VARIABLE RESISTOR			
R427	1-214-753-00	METAL	10K 1% 1/4W	RV201	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R428	1-247-885-00	CARBON	180K 5% 1/6W	RV202	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R429	1-247-129-00	CARBON	820 5% 1/4W	RV301	1-228-720-00	RES, ADJ, CERAMIC CARBON	1K
R431	1-214-753-00	METAL	10K 1% 1/4W	RV302	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R435	1-247-115-00	CARBON	220 5% 1/4W	RV303	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R436	1-247-115-00	CARBON	220 5% 1/4W	RV304	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R437	1-247-145-00	CARBON	3.9K 5% 1/4W	RV401	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R438	1-214-915-00	METAL	120K 1% 1/2W	RV402	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R439	1-214-717-00	METAL	330 1% 1/4W	RV403	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R440	1-247-843-00	CARBON	3.3K 5% 1/6W	RV404	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R441	1-247-843-00	CARBON	3.3K 5% 1/6W	RV405	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R442	1-247-843-00	CARBON	3.3K 5% 1/6W	RV407	1-228-722-00	RES, ADJ, CERAMIC CARBON	3.3K
R443	1-247-834-00	CARBON	1.3K 5% 1/6W	FILTER			
R444	1-247-827-00	CARBON	680 5% 1/6W	SWF 201	1-404-227-51	SAWF	45MHZ
R445	1-247-833-00	CARBON	1.2K 5% 1/6W	TRANSFORMER			
R449	1-247-855-00	CARBON	10K 5% 1/6W	T201	1-404-541-11	COIL	
R450	1-247-879-00	CARBON	100K 5% 1/6W	T202	1-404-467-00	COIL, VIF	
R451	1-247-879-00	CARBON	100K 5% 1/6W	T203	1-404-467-00	COIL, VIF	
R452	1-247-879-00	CARBON	100K 5% 1/6W	T204	1-404-505-00	COIL	
R453	1-247-849-00	CARBON	5.6K 5% 1/6W	T205	1-404-489-00	COIL	
R454	1-247-879-00	CARBON	100K 5% 1/6W	T301	1-425-786-00	TRANSFORMER, BANDPASS(BPT)	
R455	1-215-453-00	METAL	22K 1% 1/6W	TUNER			
R456	1-215-432-00	METAL	3K 1% 1/6W	TU101A	1-463-470-00	TUNER, ET (BT-896)	
R457	1-215-421-00	METAL	1K 1% 1/6W	CRYSTAL			
R459	1-247-869-00	CARBON	39K 5% 1/6W	X101	1-567-192-11	OSCILLATOR, CERAMIC	
R460	1-247-855-00	CARBON	10K 5% 1/6W	X102	1-567-254-11	OSCILLATOR, CERAMIC	
R461	1-247-847-00	CARBON	4.7K 5% 1/6W	X301	1-527-722-00	OSCILLATOR, CRYSTAL	
R462	1-247-831-00	CARBON	1K 5% 1/6W				
R463	1-247-831-00	CARBON	1K 5% 1/6W				
R464	1-247-107-00	CARBON	100 5% 1/4W				
R465	1-247-107-00	CARBON	100 5% 1/4W				
R466	1-247-107-00	CARBON	100 5% 1/4W				
R467	1-247-103-00	CARBON	68 5% 1/4W				
R468	1-247-103-00	CARBON	68 5% 1/4W				
R469	1-247-103-00	CARBON	68 5% 1/4W				
R470	1-247-899-00	CARBON	680K 5% 1/6W				
R471	1-247-855-00	CARBON	10K 5% 1/6W				
R472	1-247-891-00	CARBON	330K 5% 1/6W				
R475	1-247-131-00	CARBON	1K 5% 1/4W				
R476	1-247-131-00	CARBON	1K 5% 1/4W				

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

M

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*1-613-419-21 M BOARD *****				<u>RESISTOR</u>			
<u>CAPACITOR</u>				R1301	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1301	1-102-978-00	CERAMIC 220PF 5% 50V		R1302	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1302	1-102-978-00	CERAMIC 220PF 5% 50V		R1303	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1303	1-101-004-00	CERAMIC 0.01MF 50V		R1304	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1304	1-123-318-00	ELECT 33MF 20% 16V		R1305	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1305	1-106-196-00	MYLAR 0.01MF 10% 100V		R1306	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1306	1-123-333-00	ELECT 100MF 20% 16V		R1307	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1307	1-102-822-00	CERAMIC 390PF 5% 50V		R1308	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1308	1-101-888-00	CERAMIC 68PF 5% 50V		R1309	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1309	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1310	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1310	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1311	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1311	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1312	1-247-171-00	CARBON 47K 5% 1/4W	
C1312	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1313	1-247-179-00	CARBON 100K 5% 1/4W	
C1313	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1314	1-247-139-00	CARBON 2.2K 5% 1/4W	
C1314	1-102-074-00	CERAMIC 0.001MF 10% 50V		R1315	1-246-529-00	CARBON 220K 5% 1/4W	
<u>DIODE</u>				R1316	1-247-147-00	CARBON 4.7K 5% 1/4W	
D1305	8-719-911-19	DIODE 1SS119		R1317	1-247-133-00	CARBON 1.2K 5% 1/4W	
D1306	8-719-911-19	DIODE 1SS119		R1318	1-247-123-00	CARBON 470 5% 1/4W	
D1307	8-719-911-19	DIODE 1SS119		R1319	1-247-107-00	CARBON 100 5% 1/4W	
D1308	8-719-911-19	DIODE 1SS119		R1320	1-247-155-00	CARBON 10K 5% 1/4W	
D1310	8-719-911-19	DIODE 1SS119		R1321	1-247-123-00	CARBON 470 5% 1/4W	
D1313	8-719-911-19	DIODE 1SS119		R1322	1-247-139-00	CARBON 2.2K 5% 1/4W	
D1314	8-719-911-19	DIODE 1SS119		R1323	1-247-139-00	CARBON 2.2K 5% 1/4W	
D1316	8-719-911-19	DIODE 1SS119		R1324	1-247-139-00	CARBON 2.2K 5% 1/4W	
D1317	8-719-911-19	DIODE 1SS119		R1325	1-247-155-00	CARBON 10K 5% 1/4W	
D1320	8-719-911-19	DIODE 1SS119		R1326	1-247-163-00	CARBON 22K 5% 1/4W	
D1321	8-719-911-19	DIODE 1SS119		R1327	1-247-119-00	CARBON 330 5% 1/4W	
D1322	8-719-102-58	DIODE RD3.6E-N2		R1328	1-247-091-00	CARBON 22 5% 1/4W	
<u>IC</u>				R1329	1-247-159-00	CARBON 15K 5% 1/4W	
IC1301	8-759-909-49	IC CX23040		R1330	1-247-139-00	CARBON 2.2K 5% 1/4W	
<u>COIL</u>				R1331	1-247-139-00	CARBON 2.2K 5% 1/4W	
L1301	1-407-705-00	MICRO INDUCTOR 100UH		R1332	1-247-139-00	CARBON 2.2K 5% 1/4W	
<u>CONNECTOR</u>				R1333	1-247-139-00	CARBON 2.2K 5% 1/4W	
M1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R1334	1-247-139-00	CARBON 2.2K 5% 1/4W	
M2	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		R1335	1-247-139-00	CARBON 2.2K 5% 1/4W	
M3	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		R1336	1-247-131-00	CARBON 1K 5% 1/4W	
M5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		R1337	1-247-139-00	CARBON 2.2K 5% 1/4W	
M8	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		R1338	1-247-139-00	CARBON 2.2K 5% 1/4W	
<u>TRANSISTOR</u>				R1339	1-247-139-00	CARBON 2.2K 5% 1/4W	
Q1301	8-729-245-83	TRANSISTOR 2SC2458		R1340	1-247-139-00	CARBON 2.2K 5% 1/4W	
Q1302	8-729-245-83	TRANSISTOR 2SC2458		R1341	1-247-139-00	CARBON 2.2K 5% 1/4W	
Q1303	8-729-245-83	TRANSISTOR 2SC2458		R1342	1-247-139-00	CARBON 2.2K 5% 1/4W	
				<u>SWITCH</u>			
				S1301	1-553-976-00	SWITCH, PUSH	
				S1302	1-553-976-00	SWITCH, PUSH	
				S1303	1-553-976-00	SWITCH, PUSH	
				S1304	1-553-976-00	SWITCH, PUSH	
				S1305	1-570-061-11	SWITCH, PUSH (8 KEY)	
				S1306	1-570-061-11	SWITCH, PUSH (8 KEY)	
				S1307	1-570-061-11	SWITCH, PUSH (8 KEY)	

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

D


Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C1527	1-106-190-00	MYLAR	0.0050MF 10% 100V	C1611	1-106-212-00	MYLAR	0.047MF 10% 100V
C1528	1-106-204-00	MYLAR	0.022MF 10% 100V	C1651	1-123-364-00	ELECT	1000MF 20% 50V
C1529	1-102-030-00	CERAMIC	330PF 10% 500V	C1652	1-102-038-00	CERAMIC	0.001MF 500V
C1530	1-123-357-00	ELECT	22MF 20% 50V	C1653	1-108-429-00	MYLAR	0.047MF 10% 200V
C1531	1-102-038-00	CERAMIC	0.001MF 500V	C1654	1-102-223-00	CERAMIC	0.0047MF 10% 2KV
C1534	1-123-356-00	ELECT	10MF 20% 16V	C1655	1-102-212-00	CERAMIC	820PF 10% 500V
C1535	1-106-190-00	MYLAR	0.0050MF 10% 100V	C1656	1-123-336-00	ELECT	470MF 20% 25V
C1536	1-123-232-00	ELECT	4.7MF 20% 50V	C1657	1-124-347-00	ELECT	100MF 20% 160V
C1538	1-102-114-00	CERAMIC	470PF 10% 50V	C1658	1-123-384-00	ELECT	10MF 20% 100V
C1540	1-123-332-00	ELECT	47MF 20% 25V	C1659	1-106-377-00	MYLAR	0.027MF 10% 200V
C1541	1-102-157-00	CERAMIC	560PF 10% 500V	C1660	1-123-379-00	ELECT	0.47MF 20% 50V
C1542	1-123-332-00	ELECT	47MF 20% 16V	C1661	1-102-244-00	CERAMIC	220PF 10% 500V
C1543	1-102-030-00	CERAMIC	330PF 10% 500V	C1662	1-106-367-00	MYLAR	0.01MF 10% 200V
C1544	1-108-437-00	MYLAR	0.22MF 10% 200V	C1663A	1-162-134-51	CERAMIC	470PF 10% 2KV
C1545	1-108-431-00	MYLAR	0.068MF 10% 200V	C1664A	1-136-317-11	FILM	0.025MF 3% 2KV
C1546	1-123-931-00	ELECT	3.3MF 20% 160V	C1665A	1-162-115-51	CERAMIC	330PF 10% 2KV
C1547	1-123-356-00	ELECT	10MF 20% 50V	C1666	1-106-351-00	MYLAR	0.0022MF 10% 200V
C1548	1-102-212-00	CERAMIC	820PF 10% 500V	C1667A	1-136-315-51	FILM	0.047MF 5% 630V
C1549	1-108-429-00	MYLAR	0.047MF 10% 200V	C1668A	1-129-704-51	FILM	0.0015MF 10% 630V
C1550	1-108-429-00	MYLAR	0.047MF 10% 200V	C1669	1-123-332-00	ELECT	47MF 20% 25V
C1551	1-124-609-11	ELECT	470MF 10% 50V	C1670A	1-136-053-11	FILM	1.2ME 5% 200V
C1552	1-123-380-00	ELECT	1MF 20% 50V	C1671	1-106-172-00	MYLAR	0.001MF 10% 100V
C1553	1-123-357-00	ELECT	22MF 20% 50V	C1672	1-108-431-00	MYLAR	0.068MF 10% 200V
C1555	1-106-172-00	MYLAR	0.001MF 10% 100V	C1673A	1-136-179-11	FILM	1.5MF 5% 200V
C1556	1-106-188-00	MYLAR	0.0047MF 10% 100V	C1674	1-136-184-00	MYLAR	0.68MF 10% 250V
C1557	1-136-173-00	FILM	0.47MF 5% 50V	C1675A	1-162-115-51	CERAMIC	330PF 10% 2KV
C1558	1-102-212-00	CERAMIC	820PF 10% 500V	C1676	1-108-429-00	MYLAR	0.047MF 10% 200V
C1559	1-101-004-00	CERAMIC	0.01MF 50V	C1677	1-102-233-00	CERAMIC	33PF 10% 500V
C1567	1-102-112-00	CERAMIC	330PF 10% 50V	CONNECTOR			
C1572	1-106-196-00	MYLAR	0.01MF 10% 100V	D1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
C1573	1-123-380-00	ELECT	1MF 20% 50V	D2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
C1574	1-106-204-00	MYLAR	0.022MF 10% 100V	D3	*1-508-766-00	4P PLUG (M)	
C1575	1-106-196-00	MYLAR	0.01MF 10% 100V	D4	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
C1576	1-106-212-00	MYLAR	0.047MF 10% 100V	D5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
C1577	1-106-212-00	MYLAR	0.047MF 10% 100V	D6	*1-508-766-00	4P PLUG (M)	
C1578	1-123-379-00	ELECT	0.47MF 20% 50V	D8	*1-508-765-00	3P PLUG (M)	
C1579	1-123-330-00	ELECT	22MF 20% 25V	D10	*1-508-765-00	3P PLUG (M)	
C1591	1-123-356-00	ELECT	10MF 20% 25V	D11	*1-508-767-00	5P PLUG	
C1592	1-123-356-00	ELECT	10MF 20% 25V	D12	*1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P	
C1593	1-123-379-00	ELECT	0.47MF 20% 50V	D13	*1-508-767-00	5P PLUG	
C1594	1-106-196-00	MYLAR	0.01MF 10% 100V	D14	*1-508-766-00	4P PLUG (M)	
C1595	1-106-184-00	MYLAR	0.0033MF 10% 100V	D15	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
C1596	1-102-117-00	CERAMIC	820PF 10% 50V	D16	*1-508-765-00	3P PLUG (M)	
C1600	1-106-180-00	MYLAR	0.0022MF 10% 100V	DY1	*1-508-765-00	3P PLUG (M)	
C1601	1-106-208-00	MYLAR	0.033MF 10% 100V	DY2	*1-508-765-00	3P PLUG (M)	
C1602	1-106-184-00	MYLAR	0.0033MF 10% 100V	DY3	*1-508-766-00	4P PLUG (M)	
C1604	1-123-359-00	ELECT	47MF 20% 50V	DIODE			
C1605	1-123-357-00	ELECT	22MF 20% 50V	D605	8-719-911-55	DIODE U05G	
C1606	1-123-332-00	ELECT	47MF 20% 16V	D606	8-719-911-19	DIODE 1SS119	
C1607	1-123-360-00	ELECT	100MF 20% 50V	D607	8-719-911-19	DIODE 1SS119	
C1608	1-129-701-00	FILM	0.01MF 5% 100V	D609A	8-719-521-10	DIODE SIVB10-S	
C1609	1-106-208-00	MYLAR	0.033MF 10% 100V				
C1610	1-123-361-00	ELECT	220MF 20% 50V				


The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

D

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
R1510	1-247-877-00	CARBON	82K	5%	1/6W	R1566	1-247-034-00	CARBON	220	5%	1/8W F
R1511	1-247-868-00	CARBON	36K	5%	1/6W	R1567	1-213-141-00	METAL OXIDE	680	5%	1W F
R1512	1-247-819-00	CARBON	330	5%	1/6W	R1568	1-247-797-00	CARBON	39	5%	1/8W F
R1513	1-247-177-00	CARBON	82K	5%	1/4W	R1569	1-213-148-00	METAL OXIDE	2.7K	5%	1W F
R1514	1-246-485-25	CARBON	3.3K	5%	1/4W	R1570	1-247-835-00	CARBON	1.5K	5%	1/6W
R1515	1-247-857-00	CARBON	12K	5%	1/6W	R1571	1-247-167-00	CARBON	33K	5%	1/4W
R1516	1-247-867-00	CARBON	33K	5%	1/6W	R1572	1-247-873-00	CARBON	56K	5%	1/6W
R1517	1-247-827-00	CARBON	680	5%	1/6W	R1573	1-247-855-00	CARBON	10K	5%	1/6W
R1518	1-247-827-00	CARBON	680	5%	1/6W	R1574	1-247-843-00	CARBON	3.3K	5%	1/6W
R1519	1-247-851-00	CARBON	6.8K	5%	1/6W	R1575	1-247-835-00	CARBON	1.5K	5%	1/6W
R1520	1-247-135-00	CARBON	1.5K	5%	1/4W	R1576	1-247-815-00	CARBON	220	5%	1/6W
R1521	1-247-177-00	CARBON	82K	5%	1/4W	R1577	1-247-131-00	CARBON	1K	5%	1/4W
R1522	1-215-463-00	METAL	56K	1%	1/6W	R1578A	METAL				1/4W
R1523	1-247-857-00	CARBON	12K	5%	1/6W	R1579	1-215-411-00	METAL	390	1%	1/6W
R1524	1-247-158-00	CARBON	13K	5%	1/4W	R1580	1-247-823-00	CARBON	470	5%	1/6W
R1525	1-247-845-00	CARBON	3.9K	5%	1/6W	R1581	1-247-837-00	CARBON	1.8K	5%	1/6W
R1526	1-247-867-00	CARBON	33K	5%	1/6W	R1582	1-246-485-25	CARBON	3.3K	5%	1/4W
R1527	1-247-155-00	CARBON	10K	5%	1/4W	R1583	1-212-364-00	METAL OXIDE	2.2	5%	1W F
R1528	1-247-839-00	CARBON	2.2K	5%	1/6W	R1584	1-213-147-00	METAL OXIDE	2.2K	5%	1W F
R1529	1-214-753-00	METAL	10K	1%	1/4W	R1585	1-247-171-00	CARBON	47K	5%	1/4W
R1530	1-214-750-00	METAL	7.5K	1%	1/4W	R1586	1-206-463-00	METAL OXIDE	10	5%	2W F
R1531A	METAL				1/4W	R1587	1-206-463-00	METAL OXIDE	10	5%	2W F
R1532	1-247-855-00	CARBON	10K	5%	1/6W	R1588	1-246-503-25	CARBON	18K	5%	1/4W
R1533	1-206-692-00	METAL OXIDE	15K	5%	2W F	R1589	1-247-855-00	CARBON	10K	5%	1/6W
R1534A	METAL				1/4W	R1590	1-247-839-00	CARBON	2.2K	5%	1/6W
R1535A	METAL				1/4W	R1591	1-247-849-00	CARBON	5.6K	5%	1/6W
R1537	1-214-783-00	METAL	180K	1%	1/4W	R1592	1-247-843-00	CARBON	3.3K	5%	1/6W
R1538	1-214-753-00	METAL	10K	1%	1/4W	R1593	1-247-831-00	CARBON	1K	5%	1/6W
R1539	1-247-177-00	CARBON	82K	5%	1/4W	R1594	1-247-857-00	CARBON	12K	5%	1/6W
R1540	1-246-545-00	CARBON	1M	5%	1/4W	R1595	1-247-875-00	CARBON	68K	5%	1/6W
R1541	1-202-723-00	SOLID	2.2M	10%	1/2W	R1596	1-247-879-00	CARBON	100K	5%	1/6W
R1543	1-214-750-00	METAL	7.5K	1%	1/4W	R1597	1-247-847-00	CARBON	4.7K	5%	1/6W
R1544	1-214-779-00	METAL	120K	1%	1/4W	R1598	1-247-875-00	CARBON	68K	5%	1/6W
R1545	1-214-781-00	METAL	150K	1%	1/4W	R1599	1-247-839-00	CARBON	2.2K	5%	1/6W
R1546	1-247-831-00	CARBON	1K	5%	1/6W	R1600	1-247-855-00	CARBON	10K	5%	1/6W
R1547	1-214-766-00	METAL	36K	1%	1/4W	R1601	1-247-867-00	CARBON	33K	5%	1/6W
R1548	1-247-119-00	CARBON	330	5%	1/4W	R1602	1-247-139-00	CARBON	2.2K	5%	1/4W
R1549	1-247-833-00	CARBON	1.2K	5%	1/6W	R1603	1-247-167-00	CARBON	33K	5%	1/4W
R1550	1-213-161-00	METAL OXIDE	33K	5%	1W F	R1604	1-247-855-00	CARBON	10K	5%	1/6W
R1551	1-247-131-00	CARBON	1K	5%	1/4W	R1605	1-247-871-00	CARBON	47K	5%	1/6W
R1552	1-247-109-00	CARBON	120	5%	1/4W	R1606	1-247-871-00	CARBON	47K	5%	1/6W
R1553	1-213-155-00	METAL OXIDE	10K	5%	1W F	R1607	1-247-833-00	CARBON	1.2K	5%	1/6W
R1554	1-247-807-00	CARBON	100	5%	1/6W	R1608	1-247-875-00	CARBON	68K	5%	1/6W
R1555	1-247-879-00	CARBON	100K	5%	1/6W	R1609	1-247-875-00	CARBON	68K	5%	1/6W
R1556A	CARBON				1/4W	R1610	1-247-855-00	CARBON	10K	5%	1/6W
R1558	1-247-903-00	CARBON	1M	5%	1/6W	R1611	1-247-831-00	CARBON	1K	5%	1/6W
R1559	1-247-903-00	CARBON	1M	5%	1/6W	R1612	1-247-107-00	CARBON	100	5%	1/4W
R1560	1-247-807-00	CARBON	100	5%	1/8W F	R1613	1-247-875-00	CARBON	68K	5%	1/6W
R1561	1-247-823-00	CARBON	470	5%	1/8W F	R1614	1-247-855-00	CARBON	10K	5%	1/6W
R1562	1-213-145-00	METAL OXIDE	1.5K	5%	1W F	R1616	1-246-485-25	CARBON	3.3K	5%	1/4W
R1563	1-212-361-00	METAL OXIDE	1.2	5%	1W F	R1617	1-247-863-00	CARBON	22K	5%	1/6W
R1564	1-212-361-00	METAL OXIDE	1.2	5%	1W F	R1618	1-247-847-00	CARBON	4.7K	5%	1/6W
R1565	1-247-791-00	CARBON	22	5%	1/8W F	R1619	1-247-863-00	CARBON	22K	5%	1/6W

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

U

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C832	1-123-622-00	ELECT 22MF	20% 16V	Q817	8-729-245-83	TRANSISTOR 2SC2458	
C834	1-123-318-00	ELECT 33MF	20% 16V	Q818	8-729-245-83	TRANSISTOR 2SC2458	
C835	1-123-820-00	ELECT 33MF	20% 16V	Q819	8-729-245-83	TRANSISTOR 2SC2458	
C836	1-123-820-00	ELECT 33MF	20% 16V	Q820	8-729-245-83	TRANSISTOR 2SC2458	
C837	1-123-318-00	ELECT 33MF	20% 16V	Q821	8-729-245-83	TRANSISTOR 2SC2458	
C839	1-123-380-00	ELECT 1MF	20% 50V	Q822	8-729-204-83	TRANSISTOR 2SA1048GR	
C842	1-123-318-00	ELECT 220MF	20% 16V	Q823	8-729-204-83	TRANSISTOR 2SA1048GR	
C843	1-123-318-00	ELECT 33MF	20% 16V	Q824	8-729-245-83	TRANSISTOR 2SC2458	
C845	1-123-356-00	ELECT 10MF	20% 16V	Q825	8-729-204-83	TRANSISTOR 2SA1048GR	
C846	1-119-358-00	ELECT 22MF	16V	Q826	8-729-245-83	TRANSISTOR 2SC2458	
C847	1-102-125-00	CERAMIC 0.0047MF	10% 50V	Q827	8-729-245-83	TRANSISTOR 2SC2458	
C851	1-123-332-00	ELECT 47MF	20% 16V	Q828	8-729-245-83	TRANSISTOR 2SC2458	
C852	1-123-318-00	ELECT 33MF	20% 16V	Q829	8-729-204-83	TRANSISTOR 2SA1048GR	
C853	1-102-125-00	CERAMIC 0.0047MF	10% 50V	Q830	8-729-204-83	TRANSISTOR 2SA1048GR	
C880	1-123-307-00	ELECT 100MF	20% 6.3V	Q831	8-729-204-83	TRANSISTOR 2SA1048GR	
<u>DIODE</u>				Q832	8-729-204-83	TRANSISTOR 2SA1048GR	
D801	8-719-102-73	DIODE RD6.2E-N1		Q833	8-729-245-83	TRANSISTOR 2SC2458	
D802	8-719-102-73	DIODE RD6.2E-N1		Q834	8-729-245-83	TRANSISTOR 2SC2458	
D806	8-719-102-73	DIODE RD6.2E-N1		Q835	8-729-245-83	TRANSISTOR 2SC2458	
D807	8-719-911-19	DIODE 1SS119		<u>RESISTOR</u>			
D808	8-719-911-19	DIODE 1SS119		R801	1-247-123-00	CARBON 470 5% 1/4W	
D809	8-719-911-19	DIODE 1SS119		R802	1-247-873-00	CARBON 56K 5% 1/6W	
D814	8-719-911-19	DIODE 1SS119		R803	1-247-873-00	CARBON 56K 5% 1/6W	
D815	8-719-911-19	DIODE 1SS119		R804	1-247-115-00	CARBON 220 5% 1/4W	
D816	8-719-911-19	DIODE 1SS119		R805	1-247-879-00	CARBON 100K 5% 1/6W	
D817	8-719-911-19	DIODE 1SS119		R806	1-247-873-00	CARBON 56K 5% 1/6W	
D818	8-719-102-73	DIODE RD6.2E-N1		R807	1-247-873-00	CARBON 56K 5% 1/6W	
<u>IC</u>				R808	1-247-179-00	CARBON 100K 5% 1/4W	
IC801	8-759-240-52	IC TC4052BP		R809	1-246-543-00	CARBON 820K 5% 1/4W	
IC802	8-759-240-52	IC TC4052BP		R810	1-247-831-00	CARBON 1K 5% 1/6W	
IC803	8-759-900-09	IC SN74LS09N		R811	1-247-115-00	CARBON 220 5% 1/4W	
IC804	8-759-140-53	IC UPD4053BC		R812	1-247-847-00	CARBON 4.7K 5% 1/6W	
IC805	8-759-240-52	IC TC4052BP		R813	1-247-869-00	CARBON 39K 5% 1/6W	
IC806	8-759-900-05	IC SN74LS05N		R814	1-247-847-00	CARBON 4.7K 5% 1/6W	
IC807	8-759-145-58	IC UPC4558C		R815	1-247-855-00	CARBON 10K 5% 1/6W	
<u>COIL</u>				R816	1-247-855-00	CARBON 10K 5% 1/6W	
L801	1-408-235-00	MICRO INDUCTOR 2.2MMH		R818	1-247-131-00	CARBON 1K 5% 1/4W	
L802	1-408-417-00	MICRO INDUCTOR 47UH		R819	1-247-131-00	CARBON 1K 5% 1/4W	
<u>TRANSISTOR</u>				R820	1-247-901-00	CARBON 820K 5% 1/6W	
Q802	8-729-204-83	TRANSISTOR 2SA1048GR		R821	1-247-869-00	CARBON 39K 5% 1/6W	
Q803	8-729-204-83	TRANSISTOR 2SA1048GR		R822	1-247-115-00	CARBON 220 5% 1/4W	
Q804	8-729-204-83	TRANSISTOR 2SA1048GR		R823	1-247-107-00	CARBON 100 5% 1/4W	
Q805	8-729-245-83	TRANSISTOR 2SC2458		R824	1-247-117-00	CARBON 270 5% 1/4W	
Q806	8-729-245-83	TRANSISTOR 2SC2458		R825	1-247-815-00	CARBON 220 5% 1/6W	
Q807	8-729-245-83	TRANSISTOR 2SC2458		R827	1-247-893-00	CARBON 390K 5% 1/6W	
Q812	8-729-245-83	TRANSISTOR 2SC2458		R828	1-247-893-00	CARBON 390K 5% 1/6W	
Q813	8-729-245-83	TRANSISTOR 2SC2458		R829	1-246-507-00	CARBON 27K 5% 1/4W	
Q814	8-729-245-83	TRANSISTOR 2SC2458		R830	1-246-507-00	CARBON 27K 5% 1/4W	
Q815	8-729-245-83	TRANSISTOR 2SC2458		R831	1-246-507-00	CARBON 27K 5% 1/4W	
Q816	8-729-245-83	TRANSISTOR 2SC2458		R832	1-246-507-00	CARBON 27K 5% 1/4W	
				R833	1-246-507-00	CARBON 27K 5% 1/4W	
				R834	1-247-865-00	CARBON 27K 5% 1/6W	

U

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R835	1-247-893-00	CARBON	390K 5% 1/6W	R897	1-247-855-00	CARBON	10K 5% 1/6W
R837	1-246-463-25	CARBON	390 5% 1/4W	R898	1-247-855-00	CARBON	10K 5% 1/6W
R838	1-247-895-00	CARBON	470K 5% 1/6W	R899	1-247-115-00	CARBON	220 5% 1/4W
R839	1-246-537-00	CARBON	470K 5% 1/4W	R900	1-247-107-00	CARBON	100 5% 1/4W
R840	1-247-104-00	CARBON	75 5% 1/4W	R901	1-247-131-00	CARBON	1K 5% 1/4W
R841	1-247-149-00	CARBON	5.6K 5% 1/4W	R902	1-247-131-00	CARBON	1K 5% 1/4W
R842	1-247-149-00	CARBON	5.6K 5% 1/4W	R903	1-247-105-00	CARBON	82 5% 1/4W
R843	1-247-155-00	CARBON	10K 5% 1/4W	R904	1-247-105-00	CARBON	82 5% 1/4W
R844	1-247-155-00	CARBON	10K 5% 1/4W	R905	1-247-105-00	CARBON	82 5% 1/4W
R845	1-247-895-00	CARBON	470K 5% 1/6W	R906	1-247-105-00	CARBON	82 5% 1/4W
R846	1-247-104-00	CARBON	75 5% 1/4W	R908	1-247-861-00	CARBON	18K 5% 1/6W
R847	1-246-507-00	CARBON	27K 5% 1/4W	R909	1-247-867-00	CARBON	33K 5% 1/6W
R848	1-246-507-00	CARBON	27K 5% 1/4W	R910	1-247-861-00	CARBON	18K 5% 1/6W
R849	1-247-131-00	CARBON	1K 5% 1/4W	R911	1-247-879-00	CARBON	100K 5% 1/6W
R850	1-247-131-00	CARBON	1K 5% 1/4W	R912	1-247-879-00	CARBON	100K 5% 1/6W
R851	1-247-155-00	CARBON	10K 5% 1/4W	R913	1-247-847-00	CARBON	4.7K 5% 1/6W
R852	1-247-863-00	CARBON	22K 5% 1/6W	R914	1-247-847-00	CARBON	4.7K 5% 1/6W
R853	1-246-463-00	CARBON	390 5% 1/4W	R915	1-247-823-00	CARBON	470 5% 1/6W
R854	1-247-104-00	CARBON	75 5% 1/4W	R916	1-247-823-00	CARBON	470 5% 1/6W
R855	1-247-147-00	CARBON	4.7K 5% 1/4W	R917	1-247-827-00	CARBON	680 5% 1/6W
R856	1-247-131-00	CARBON	1K 5% 1/4W	R918	1-247-835-00	CARBON	1.5K 5% 1/6W
R857	1-246-503-25	CARBON	18K 5% 1/4W	R919	1-247-855-00	CARBON	10K 5% 1/6W
R858	1-247-877-00	CARBON	82K 5% 1/6W	R921	1-247-831-00	CARBON	1K 5% 1/6W
R859	1-247-831-00	CARBON	1K 5% 1/6W	R922	1-247-131-00	CARBON	1K 5% 1/4W
R860	1-247-115-00	CARBON	220 5% 1/4W	R923	1-247-871-00	CARBON	47K 5% 1/6W
R861	1-247-147-00	CARBON	4.7K 5% 1/4W	R924	1-247-871-00	CARBON	47K 5% 1/6W
R862	1-247-831-00	CARBON	1K 5% 1/6W	R925	1-247-893-00	CARBON	390K 5% 1/6W
R863	1-247-835-00	CARBON	1.5K 5% 1/6W	R926	1-247-855-00	CARBON	10K 5% 1/6W
R864	1-247-115-00	CARBON	220 5% 1/4W	R928	1-247-831-00	CARBON	1K 5% 1/6W
R865	1-247-115-00	CARBON	220 5% 1/4W	R929	1-247-131-00	CARBON	1K 5% 1/4W
R866	1-247-835-00	CARBON	1.5K 5% 1/6W	R930	1-247-131-00	CARBON	1K 5% 1/4W
R867	1-247-835-00	CARBON	1.5K 5% 1/6W	R931	1-247-131-00	CARBON	1K 5% 1/4W
R868	1-247-831-00	CARBON	1K 5% 1/6W	R932	1-247-879-00	CARBON	100K 5% 1/6W
R869	1-247-115-00	CARBON	220 5% 1/4W	R934	1-247-879-00	CARBON	100K 5% 1/6W
R870	1-247-115-00	CARBON	220 5% 1/4W	R938	1-246-485-25	CARBON	3.3K 5% 1/4W
R872	1-247-115-00	CARBON	220 5% 1/4W	R939	1-247-837-00	CARBON	1.8K 5% 1/6W
R873	1-247-115-00	CARBON	220 5% 1/4W	R940	1-247-879-00	CARBON	100K 5% 1/6W
R874	1-247-823-00	CARBON	470 5% 1/6W	R941	1-247-131-00	CARBON	1K 5% 1/4W
R875	1-247-157-00	CARBON	12K 5% 1/4W	R942	1-247-104-00	CARBON	75 5% 1/4W
R876	1-247-829-00	CARBON	820 5% 1/6W	R943	1-247-104-00	CARBON	75 5% 1/4W
R879	1-247-823-00	CARBON	470 5% 1/6W	R944	1-247-104-00	CARBON	75 5% 1/4W
R881	1-247-887-00	CARBON	220K 5% 1/6W	R947	1-247-131-00	CARBON	1K 5% 1/4W
R882	1-247-887-00	CARBON	220K 5% 1/6W	R949	1-247-131-00	CARBON	1K 5% 1/4W
R883	1-247-855-00	CARBON	10K 5% 1/6W	R950	1-247-131-00	CARBON	1K 5% 1/4W
R884	1-247-855-00	CARBON	10K 5% 1/6W	R951	1-246-463-25	CARBON	390 5% 1/4W
R885	1-247-863-00	CARBON	22K 5% 1/6W	R952	1-246-463-25	CARBON	390 5% 1/4W
R886	1-247-163-00	CARBON	22K 5% 1/4W	R955	1-246-535-00	CARBON	390K 5% 1/4W
R887	1-247-863-00	CARBON	22K 5% 1/6W	R956	1-246-485-25	CARBON	3.3K 5% 1/4W
R888	1-247-863-00	CARBON	22K 5% 1/6W	R957	1-247-815-00	CARBON	220 5% 1/6W
R889	1-247-831-00	CARBON	1K 5% 1/6W	R958	1-246-485-25	CARBON	3.3K 5% 1/4W
R891	1-247-103-00	CARBON	68 5% 1/4W	R959	1-247-815-00	CARBON	220 5% 1/6W
R895	1-247-155-00	CARBON	10K 5% 1/4W				
R896	1-247-155-00	CARBON	10K 5% 1/4W				



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<u>VARIABLE RESISTOR</u>							
RV801	1-228-848-00	RES, VAR, CARBON 10K		C1124	1-123-380-00	ELECT 1MF 20% 50V	
RV802	1-228-490-00	RES, VAR, CARBON 10K		C1125	1-123-332-00	ELECT 47MF 20% 16V	
<u>SWITCH</u>				C1126	1-123-380-00	ELECT 1MF 20% 50V	
S801	1-553-651-00	SWITCH, SLIDE		C1127	1-123-356-00	ELECT 10MF 20% 16V	
S802	1-553-651-00	SWITCH, SLIDE		C1128	1-106-176-00	MYLAR 0.0015MF 10% 100V	
<u>CONNECTOR</u>				C1129	1-106-176-00	MYLAR 0.0015MF 10% 100V	
U1	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C1130	1-123-380-00	ELECT 1MF 20% 50V	
U2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P		C1131	1-131-345-00	TANTALUM 0.47MF 10% 35V	
U3	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P		C1132	1-123-356-00	ELECT 10MF 20% 16V	
U4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C1133	1-123-318-00	ELECT 33MF 20% 16V	
U5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C1134	1-130-301-00	FILM 0.015MF 5% 100V	
U6	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C1135	1-123-323-00	ELECT 470MF 20% 16V	
U7	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C1136	1-123-332-00	ELECT 47MF 20% 16V	
U8	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C1137	1-123-332-00	ELECT 47MF 20% 16V	
U9	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P		C1148	1-123-308-00	ELECT 220MF 20% 10V	
U10	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C1149	1-123-381-00	ELECT 2.2MF 20% 50V	
U11	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P		C1150	1-123-381-00	ELECT 2.2MF 20% 50V	
U13	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C1151	1-123-369-00	ELECT 4.7MF 20% 25V	
*****				C1152	1-123-369-00	ELECT 4.7MF 20% 25V	
*A-1386-014-A X BOARD, COMPLETE				C1153	1-102-074-00	CERAMIC 0.001MF 10% 50V	
*****				C1154	1-102-074-00	CERAMIC 0.001MF 10% 50V	
4-309-378-00 SPACER				C1155	1-102-074-00	CERAMIC 0.001MF 10% 50V	
<u>CAPACITOR</u>				C1156	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C1101	1-123-318-00	ELECT 33MF 20% 16V		C1157	1-123-323-00	ELECT 470MF 20% 16V	
C1102	1-123-356-00	ELECT 10MF 20% 16V		C1160	1-106-212-00	MYLAR 0.047MF 10% 100V	
C1103	1-123-318-00	ELECT 33MF 20% 16V		C1161	1-106-172-00	MYLAR 0.001MF 10% 100V	
C1104	1-123-356-00	ELECT 10MF 20% 16V		C1162	1-106-172-00	MYLAR 0.001MF 10% 100V	
C1105	1-102-074-00	CERAMIC 0.001MF 10% 50V		C1163	1-106-212-00	MYLAR 0.047MF 10% 100V	
C1106	1-123-356-00	ELECT 10MF 20% 16V		C1164	1-123-356-00	ELECT 10MF 20% 16V	
C1107	1-123-356-00	ELECT 10MF 20% 16V		C1165	1-123-380-00	ELECT 1MF 20% 50V	
C1108	1-102-074-00	CERAMIC 0.001MF 10% 50V		C1166	1-102-824-00	CERAMIC 470PF 5% 50V	
C1109	1-106-196-00	MYLAR 0.01MF 10% 100V		C1167	1-123-380-00	ELECT 1MF 20% 50V	
C1110	1-123-380-00	ELECT 1MF 20% 50V		C1168	1-102-824-00	CERAMIC 470PF 5% 50V	
C1111	1-106-212-00	MYLAR 0.047MF 10% 100V		C1169	1-123-356-00	ELECT 10MF 20% 16V	
C1112	1-106-196-00	MYLAR 0.01MF 10% 100V		C1170	1-123-360-00	ELECT 100MF 20% 50V	
C1113	1-123-382-00	ELECT 3.3MF 20% 50V		C1171	1-124-607-11	ELECT 2200MF 20% 50V	
C1114	1-123-380-00	ELECT 1MF 20% 50V		C1172	1-123-346-00	ELECT 220MF 20% 35V	
C1115	1-130-275-00	FILM 0.0012MF 5% 100V		C1174	1-106-208-00	MYLAR 0.033MF 10% 100V	
C1116	1-123-380-00	ELECT 1MF 20% 50V		C1175	1-123-364-00	ELECT 1000MF 20% 50V	
C1117	1-123-380-00	ELECT 1MF 20% 50V		C1176	1-123-359-00	ELECT 47MF 20% 35V	
C1118	1-123-321-00	ELECT 220MF 20% 16V		C1177	1-106-212-00	MYLAR 0.047MF 10% 100V	
C1119	1-106-172-00	MYLAR 0.001MF 10% 100V		C1178	1-106-212-00	MYLAR 0.047MF 10% 100V	
C1120	1-106-188-00	MYLAR 0.0047MF 10% 100V		C1179	1-123-359-00	ELECT 47MF 20% 35V	
C1121	1-102-112-00	CERAMIC 330PF 10% 50V		C1180	1-123-364-00	ELECT 1000MF 20% 50V	
C1122	1-123-369-00	ELECT 4.7MF 20% 25V		C1181	1-106-208-00	MYLAR 0.033MF 10% 100V	
C1123	1-123-380-00	ELECT 1MF 20% 50V		C1183	1-123-346-00	ELECT 220MF 20% 35V	
				C1184	1-123-356-00	ELECT 10MF 20% 16V	
				C1185	1-123-380-00	ELECT 1MF 20% 50V	
				C1186	1-123-380-00	ELECT 1MF 20% 50V	
				C1187	1-123-380-00	ELECT 1MF 20% 50V	
				C1188	1-123-380-00	ELECT 1MF 20% 50V	
				C1189	1-102-074-00	CERAMIC 0.001MF 10% 50V	
				C1190	1-123-333-00	ELECT 100MF 20% 16V	

- 87 -

X

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R1134	1-247-855-00	CARBON	10K 5% 1/6W	R1190	1-247-811-00	CARBON	150 5% 1/6W
R1135	1-247-843-00	CARBON	3.3K 5% 1/6W	R1191	1-247-823-00	CARBON	470 5% 1/6W
R1136	1-247-803-00	CARBON	68 5% 1/6W	R1192	1-247-855-00	CARBON	10K 5% 1/6W
R1137	1-247-835-00	CARBON	1.5K 5% 1/6W	R1193	1-247-855-00	CARBON	10K 5% 1/6W
R1138	1-247-819-00	CARBON	330 5% 1/6W	R1194	1-247-855-00	CARBON	10K 5% 1/6W
R1139	1-247-861-00	CARBON	18K 5% 1/6W	R1195	1-247-879-00	CARBON	100K 5% 1/6W
R1140	1-247-851-00	CARBON	6.8K 5% 1/6W	R1196	1-247-879-00	CARBON	100K 5% 1/6W
R1141	1-247-871-00	CARBON	47K 5% 1/6W	R1197	1-247-855-00	CARBON	10K 5% 1/6W
R1142	1-247-871-00	CARBON	47K 5% 1/6W	R1199	1-247-879-00	CARBON	100K 5% 1/6W
R1143	1-247-871-00	CARBON	47K 5% 1/6W	R1200	1-247-879-00	CARBON	100K 5% 1/6W
R1144	1-247-843-00	CARBON	3.3K 5% 1/6W	R1203	1-247-831-00	CARBON	1K 5% 1/6W
R1145	1-246-485-25	CARBON	3.3K 5% 1/4W	R1204	1-247-831-00	CARBON	1K 5% 1/6W
R1146	1-247-851-00	CARBON	6.8K 5% 1/6W	R1205	1-247-831-00	CARBON	1K 5% 1/6W
R1147	1-247-861-00	CARBON	18K 5% 1/6W	R1206	1-247-831-00	CARBON	1K 5% 1/6W
R1148	1-247-847-00	CARBON	4.7K 5% 1/6W	R1207	1-247-831-00	CARBON	1K 5% 1/6W
R1149	1-247-863-00	CARBON	22K 5% 1/6W	R1208	1-247-865-00	CARBON	27K 5% 1/6W
R1150	1-215-486-00	METAL	510K 1% 1/6W	R1210	1-247-847-00	CARBON	4.7K 5% 1/6W
R1151	1-214-785-00	METAL	220K 1% 1/4W	R1211	1-247-879-00	CARBON	100K 5% 1/6W
R1152	1-215-469-00	METAL	100K 1% 1/6W	R1212	1-247-847-00	CARBON	4.7K 5% 1/6W
R1153	1-214-777-00	METAL	100K 1% 1/4W	R1213	1-247-831-00	CARBON	1K 5% 1/6W
R1154	1-214-785-00	METAL	220K 1% 1/4W	R1214	1-247-879-00	CARBON	100K 5% 1/6W
R1155	1-215-493-00	METAL	1M 1% 1/6W	R1215	1-247-881-00	CARBON	120K 5% 1/6W
R1156	1-215-493-00	METAL	1M 1% 1/6W	R1216	1-247-893-00	CARBON	390K 5% 1/6W
R1157	1-246-529-00	CARBON	220K 5% 1/4W	R1217	1-211-427-00	CARBON	100 5% 1/8W F
R1158	1-247-879-00	CARBON	100K 5% 1/6W	R1218	1-247-825-00	CARBON	560 5% 1/6W
R1159	1-247-886-00	CARBON	200K 5% 1/6W	R1220	1-247-859-00	CARBON	15K 5% 1/6W
R1160	1-247-115-00	CARBON	220 5% 1/4W	R1221	1-247-861-00	CARBON	18K 5% 1/6W
R1161	1-247-863-00	CARBON	22K 5% 1/6W	R1222	1-211-401-00	CARBON	4.7 5% 1/8W F
R1162	1-247-847-00	CARBON	4.7K 5% 1/6W	R1223	1-211-401-00	CARBON	4.7 5% 1/8W F
R1163	1-247-851-00	CARBON	6.8K 5% 1/6W	R1224	1-247-831-00	CARBON	1K 5% 1/6W
R1164	1-247-861-00	CARBON	18K 5% 1/6W	R1225	1-246-503-25	CARBON	18K 5% 1/4W
R1165	1-247-848-00	CARBON	5.1K 5% 1/6W	R1226	1-247-859-00	CARBON	15K 5% 1/6W
R1166	1-247-835-00	CARBON	1.5K 5% 1/6W	R1227	1-247-831-00	CARBON	1K 5% 1/6W
R1167	1-247-833-00	CARBON	1.2K 5% 1/6W	R1229	1-247-825-00	CARBON	560 5% 1/6W
R1168	1-247-847-00	CARBON	4.7K 5% 1/6W	R1230	1-247-879-00	CARBON	100K 5% 1/6W
R1170	1-247-849-00	CARBON	5.6K 5% 1/6W	R1231	1-247-831-00	CARBON	1K 5% 1/6W
R1171	1-247-777-00	CARBON	5.6 5% 1/8W F	R1232	1-247-831-00	CARBON	1K 5% 1/6W
R1172	1-247-823-00	CARBON	470 5% 1/6W	R1233	1-247-831-00	CARBON	1K 5% 1/6W
R1173	1-247-841-00	CARBON	2.7K 5% 1/6W	R1234	1-247-831-00	CARBON	1K 5% 1/6W
R1174	1-247-829-00	CARBON	820 5% 1/6W	R1237	1-247-879-00	CARBON	100K 5% 1/6W
R1175	1-247-839-00	CARBON	2.2K 5% 1/6W	R1241	1-247-855-00	CARBON	10K 5% 1/6W
R1176	1-247-815-00	CARBON	220 5% 1/6W	R1243	1-247-862-00	CARBON	20K 5% 1/6W
R1177	1-247-863-00	CARBON	22K 5% 1/6W	R1245	1-247-867-00	CARBON	33K 5% 1/6W
R1180	1-247-855-00	CARBON	10K 5% 1/6W	R1246	1-247-843-00	CARBON	3.3K 5% 1/6W
R1181	1-247-847-00	CARBON	4.7K 5% 1/6W	R1247	1-247-885-00	CARBON	180K 5% 1/6W
R1182	1-247-838-00	CARBON	2K 5% 1/6W	R1248	1-247-885-00	CARBON	180K 5% 1/6W
R1183	1-247-838-00	CARBON	2K 5% 1/6W	R1249	1-247-847-00	CARBON	4.7K 5% 1/6W
R1184	1-247-829-00	CARBON	820 5% 1/6W	R1250	1-247-847-00	CARBON	4.7K 5% 1/6W
R1185	1-247-829-00	CARBON	820 5% 1/6W	R1251	1-247-863-00	CARBON	22K 5% 1/6W
R1186	1-247-838-00	CARBON	2K 5% 1/6W	R1252	1-247-843-00	CARBON	3.3K 5% 1/6W
R1187	1-247-879-00	CARBON	100K 5% 1/6W	R1253	1-247-865-00	CARBON	27K 5% 1/6W
R1188	1-247-855-00	CARBON	10K 5% 1/6W	R1254	1-247-847-00	CARBON	4.7K 5% 1/6W
R1189	1-247-855-00	CARBON	10K 5% 1/6W	R1255	1-247-847-00	CARBON	4.7K 5% 1/6W

X

XA

Z

Ref.No.	Part No.	Description	Remark
R1256	1-247-843-00	CARBON 3.3K 5% 1/6W	
R1257	1-247-811-00	CARBON 150 5% 1/6W	
R1258	1-247-843-00	CARBON 3.3K 5% 1/6W	
R1259	1-247-869-00	CARBON 39K 5% 1/6W	
R1260	1-247-893-00	CARBON 390K 5% 1/6W	
R1261	1-247-885-00	CARBON 180K 5% 1/6W	
R1262	1-247-844-00	CARBON 3.6K 5% 1/6W	
R1263	1-247-893-00	CARBON 390K 5% 1/6W	
R1288	1-247-848-00	CARBON 5.1K 5% 1/6W	
R1289	1-247-885-00	CARBON 180K 5% 1/6W	
R1290	1-247-811-00	CARBON 150 5% 1/6W	
R1291	1-247-843-00	CARBON 3.3K 5% 1/6W	
R1292	1-247-831-00	CARBON 1K 5% 1/6W	
R1293	1-247-844-00	CARBON 3.6K 5% 1/6W	
R1294	1-247-887-00	CARBON 220K 5% 1/6W	
R1295	1-215-421-00	METAL 1K 1% 1/6W	
<u>VARIABLE RESISTOR</u>			
RV1101	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K	
RV1102	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K	
RV1103	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K	
RV1104	1-228-722-00	RES, ADJ, CERAMIC CARBON 3.3K	
RV1106	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K	
RV1107	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K	
RV1108	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K	
RV1109	1-228-725-00	RES, ADJ, CERAMIC CARBON 22K	
RV1110	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K	
<u>TRANSFORMER</u>			
T1101	1-235-386-11	FILTER, BAND PASS	
T1102	1-235-387-11	FILTER, BAND PASS	
T1103	1-235-400-11	FILTER, LOW PASS (L.P.F)	
T1104	1-231-726-00	FILTER, LOWPASS	
T1105	1-231-726-00	FILTER, LOWPASS	
<u>CONNECTOR</u>			
X1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
X2	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
X3	*1-508-765-00	3P PLUG (M)	
X4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
X5	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
X6	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P	
X7	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	

	*1-614-651-11	XA BOARD	

<u>CAPACITOR</u>			
C1701	1-102-117-00	CERAMIC 820PF 10% 50V	
C1702	1-102-116-00	CERAMIC 680PF 10% 50V	
C1703	1-123-356-00	ELECT 10MF 20% 16V	
C1704	1-123-356-00	ELECT 10MF 20% 16V	

Ref.No.	Part No.	Description	Remark
<u>DIODE</u>			
D1701	8-719-911-19	DIODE 1SS119	
<u>COIL</u>			
L1701	1-408-242-00	MICRO INDUCTOR 10MMH	
<u>TRANSISTOR</u>			
Q1701	8-729-245-83	TRANSISTOR 2SC2458	
Q1702	8-729-204-83	TRANSISTOR 2SA1048GR	
<u>RESISTOR</u>			
R1701	1-247-839-00	CARBON 2.2K 5% 1/6W	
R1702	1-247-855-00	CARBON 10K 5% 1/6W	
R1703	1-247-847-00	CARBON 4.7K 5% 1/6W	
<u>CONNECTOR</u>			
XA1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	

	*1-613-413-11	Z BOARD	

<u>JACK</u>			
J001	1-507-806-00	JACK	
J002	1-507-940-21	JACK, AV	
J003	1-507-940-21	JACK, AV	
<u>RESISTOR</u>			
R001	1-244-851-51	CARBON 120 5% 1/2W	
R002	1-244-851-51	CARBON 120 5% 1/2W	
<u>CONNECTOR</u>			
Z1	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
Z2	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
Z3	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
Z4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	

<u>MISCELLANEOUS</u>			

	A.1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE	
	A.1-417-125-11	SELECTOR, ANTENNA	
	A.1-451-255-11	DEFLECTION YOKE (SY-164)	
	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
	1-452-146-21	MAGNET, BMC	
	A.1-452-315-21	CRT NECK ASSY (NA303)	
	*1-557-056-00	CABLE, P-P	
	A.1-557-761-11	CORD, POWER	
	L906 A.1-426-059-31	COIL, DEGAUSSING	

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
L907	△.1-426-059-31	COIL, DEGAUSSING 300HQ	
T901	△.1-439-339-12	TRANSFORMER ASSY, FLYBACK	
V901	△.8-736-651-05	CRT (A64JKJ10X) 10V10	

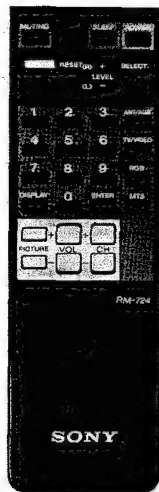
ACCESSORIES AND PACKING MATERIALS

Part No.	Description	Remark
A-1470-681-A	COMMANDER ASSY(RM-724)	
1-513-379-00	CONVERTER (EAC-25)	
4-337-844-00	BAG, PROTECTION	
4-374-194-01	CUSHION (UPPER) (ASSY)	
4-374-195-01	CUSHION (LOWER) (ASSY)	
4-374-402-01	SHEET, CORRUGATED FIBERBOARD	
4-482-023-21	MANUAL, INSTRUCTION	
4-491-213-22	INSTRUCTION	
4-374-321-01	INDIVIDUAL CARTON (FOR BEIGE)	
4-374-324-01	INDIVIDUAL CARTON (FOR PLUM)	

The components identified
by shading and mark △ are
critical for safety.
Replace only with part
number specified.

RM-724

SERVICE MANUAL



December, 1984

SPECIFICATIONS

Remote control system	Infrared control
Power requirements	3 V dc Battery size AA x 2 (IEC Battery Designation R6)
Dimensions	Approx. 55 x 20 x 175 mm (w/h/d) (2 $\frac{1}{8}$ x $\frac{7}{8}$ x 6 $\frac{7}{8}$ inches)
Weight	Approx. 130 g (4.6 oz) incl. batteries
Accessories supplied	Battery size AA (2 pcs.)

Design and specifications subject to change without notice.

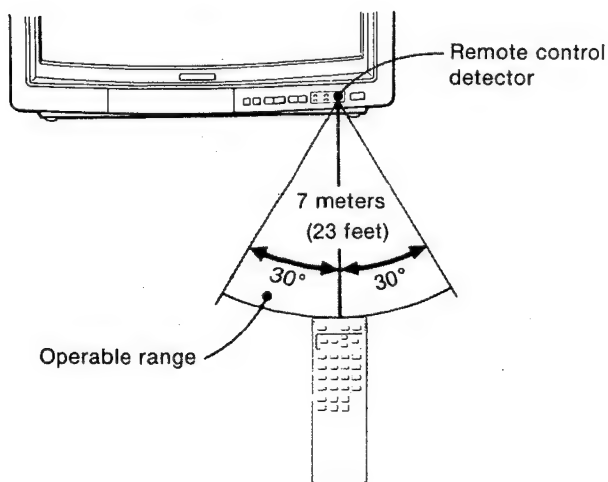
REMOTE COMMANDER
SONY®

REMOTE COMMANDER

- 1 Turn the Remote Commander face down, press the tab and lift the cover.
- 2 Place batteries in the Commander with the polarities in the correct directions, as illustrated inside the case.
- 3 Replace the cover.

Notes

- Use 2 size AA batteries (IEC designation R6).
- In normal operation, batteries will last up to half a year. If the set does not operate properly, the batteries might be exhausted. Replace all with new ones.
- To avoid damage from possible battery leakage, remove the batteries for extended unused periods.
- Be sure that there are no obstructions between the Commander and the TV.
- Operable range is limited.

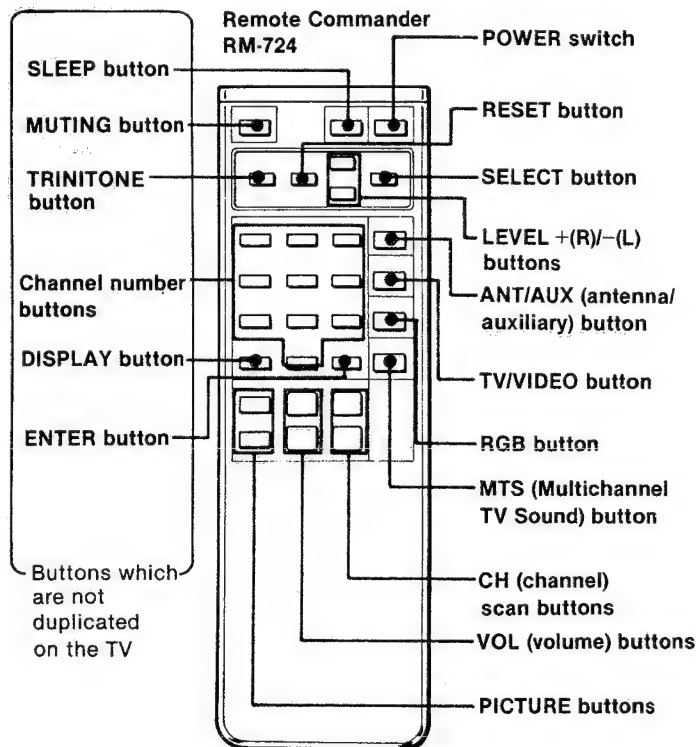


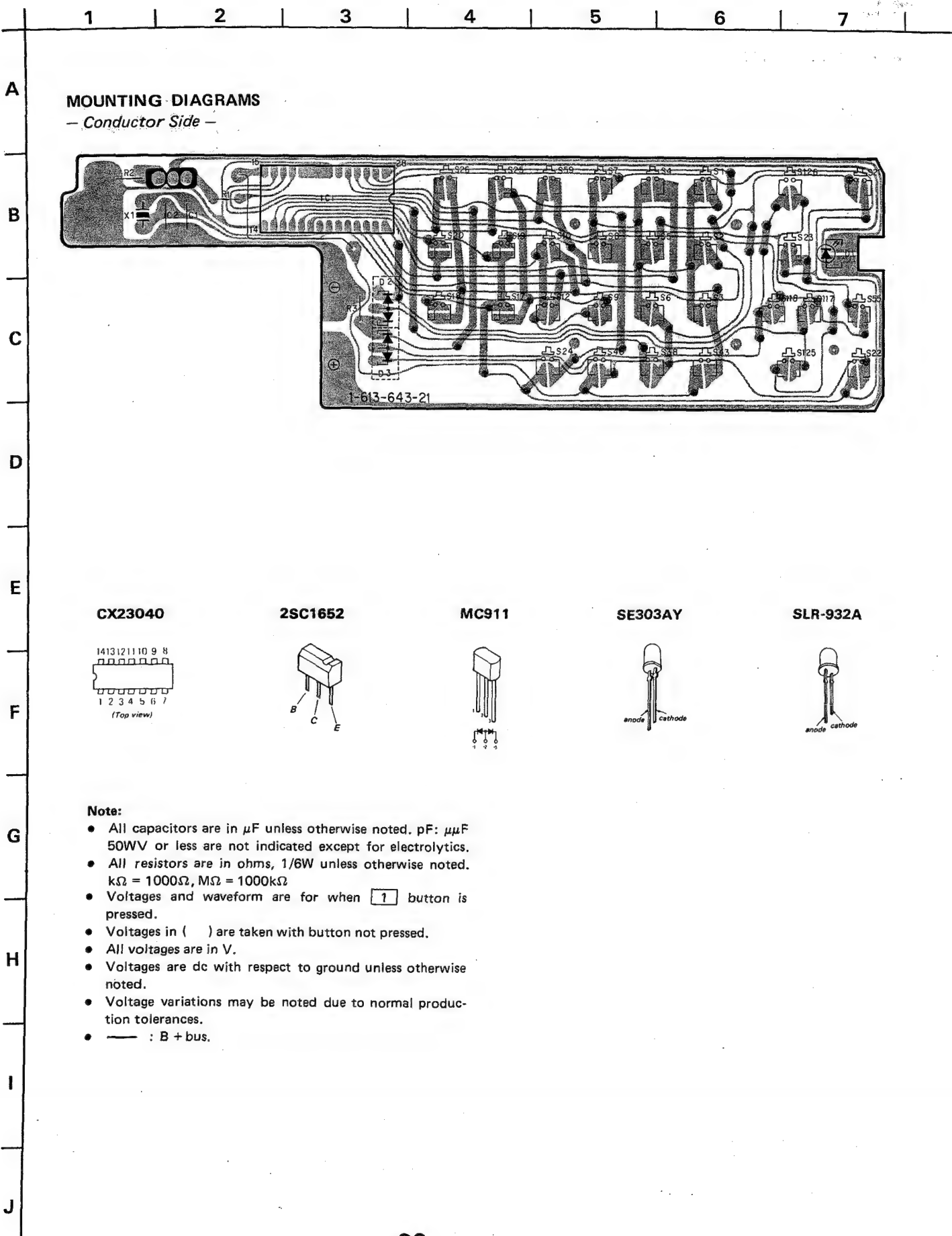
OPERATION

VIEWING TV PROGRAMS

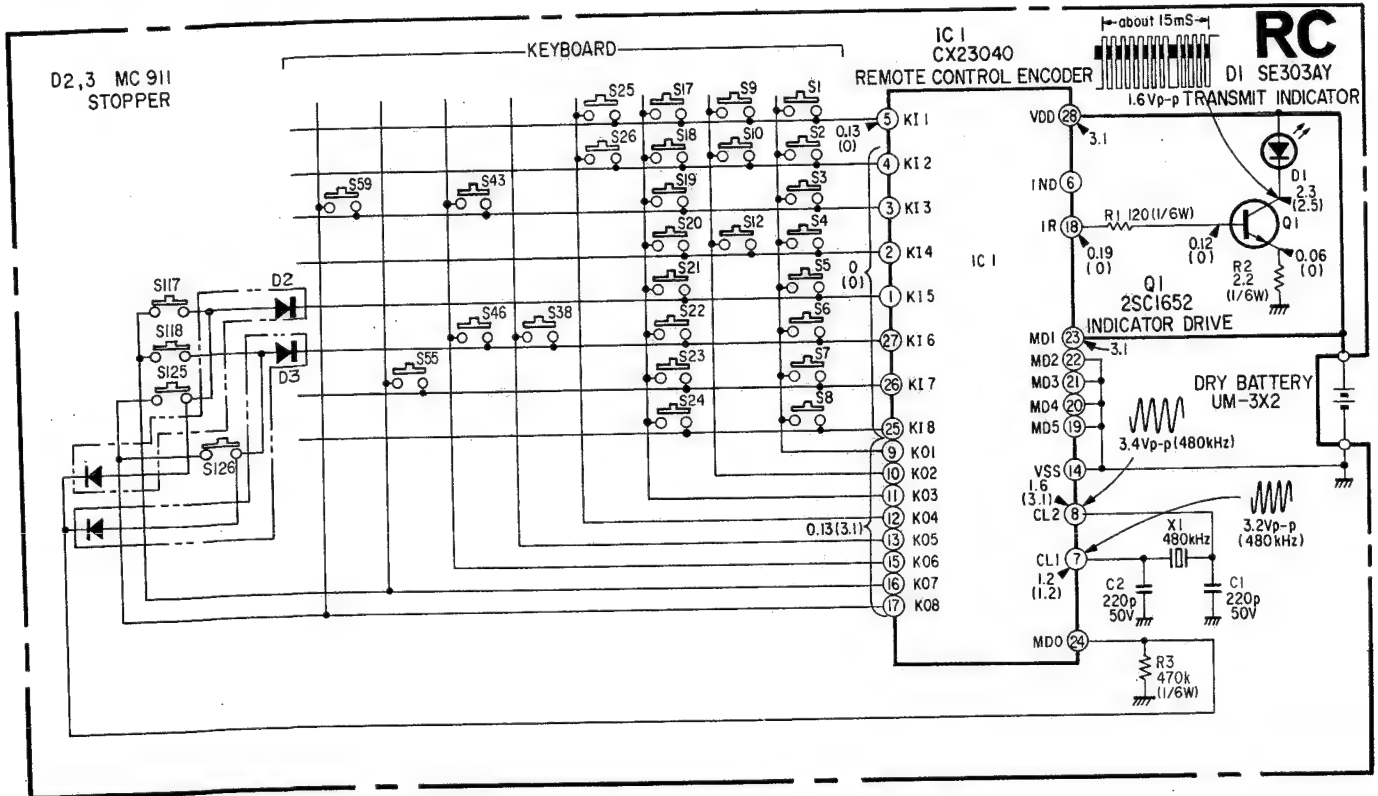
This TV set is capable of receiving normal VHF and UHF broadcasts plus cable TV channels. (See "Cable TV channel chart" below.)

Usually the Remote Commander is all that is needed to operate the TV set in everyday use.





SCHEMATIC DIAGRAM

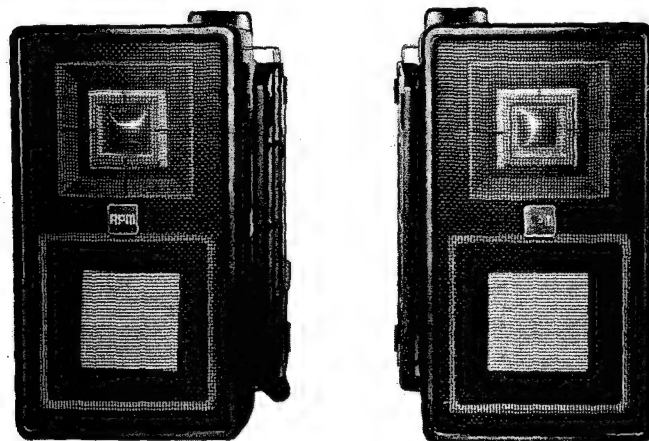


KEY MATRIX TABLE

KEY MATRIX TABLE																		
	K01		K02		K03		K04		K05		K06		K07		K08			
KI1	S1	1	S9	9	S17	CH +	S25	PICTURE +	S33		S41		S49		S57		S117	LEVEL + (R)
KI2	S2	2	S10	0	S18	CH -	S26	PICTURE -	S34		S42		S50		S58		S118	LEVEL - (L)
KI3	S3	3	S11		S19	VOL +	S27		S35		S43	ANT/AUX	S51		S59	DISPLAY	S125	SELECT
KI4	S4	4	S12	ENTER	S20	VOL -	S28		S36		S44		S52		S60		S126	TRINITONE
KI5	S5	5	S13		S21	MUTING	S29		S37		S45		S53		S61			
KI6	S6	6	S14		S22	POWER	S30		S38	TV/VIDEO	S46	R G B	S50		S62			
KI7	S7	7	S15		S23	RESET	S31		S39		S47		S55	SLEEP	S63			
KI8	S8	8	S16		S24	MTS	S32		S40		S48		S56		S64			

APM-X3U

SERVICE MANUAL



December, 1984

SPECIFICATIONS

Side-mounting speakers (Weight approx. 1.5 kg each) with speaker cords
.....1 pair
35 cm² (5.4 in²), APM unit
55 cm² (8.5 in²), Bass radiator unit

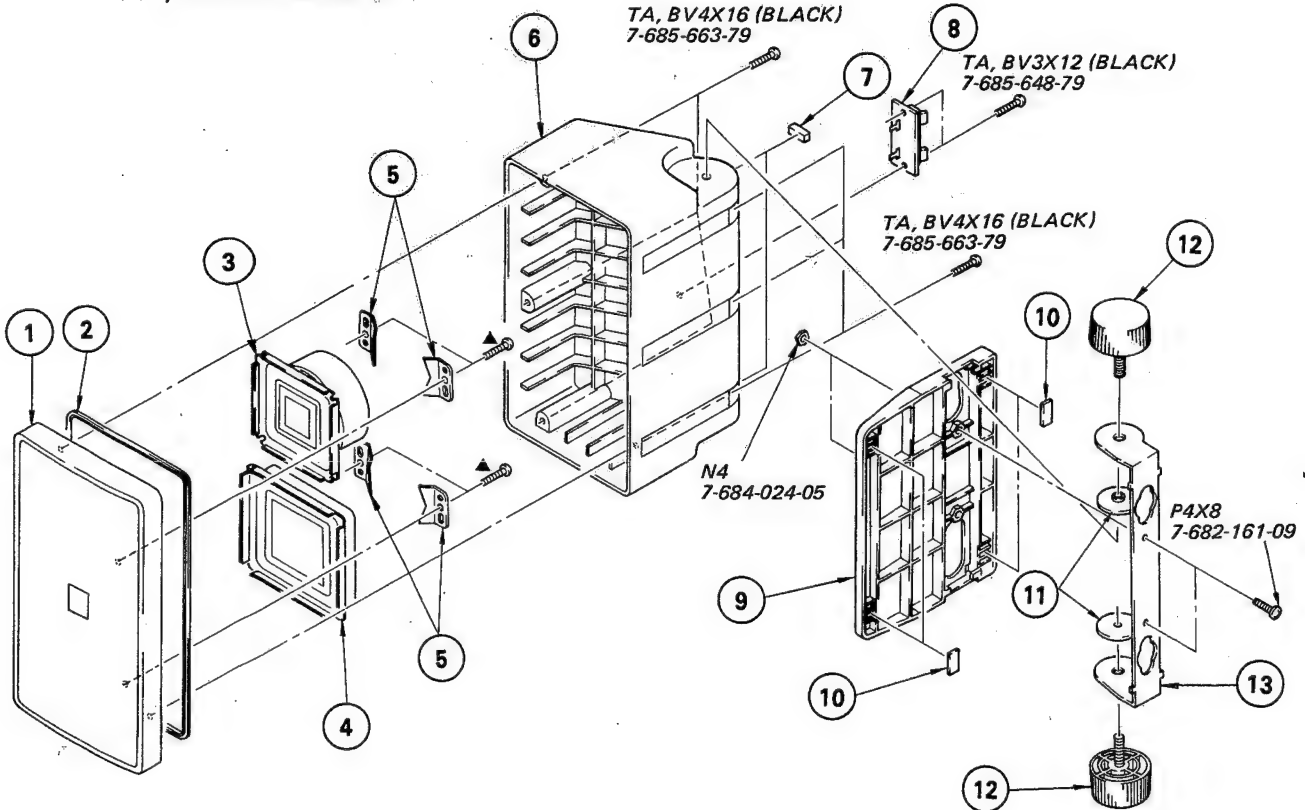
SPEAKER SYSTEM
SONY®

EXPLODED VIEW

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

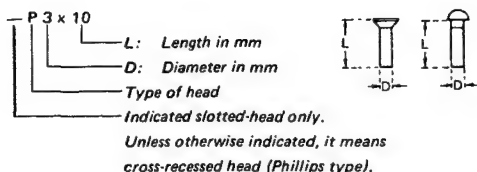
▲ : TA, BV4X12 7-685-661-14



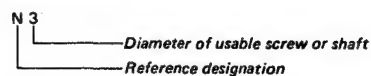
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4907-701-1	BOARD ASSY, BAFFLE		8	1-536-881-11	TERMINAL BOARD (SPEAKER)	
2	*4-907-707-01	RUBBER, SHIELD		9	4-907-709-01	BASE	
3	8-927-199-00	048A008		10	4-907-703-02	CUSHION, LEG	
4	8-927-189-00	SPEAKER UNIT (060P001)		11	4-907-705-01	SPACER	
5	4-907-702-11	HOLDER, SP		12	4-907-701-01	SCREW (A), ORNAMENTAL	
6	4-907-710-01	CABINET		13	*4-907-706-01	BRACKET, CABINET	
7	9-911-847-XX	SPACER, HOLE					













HARDWARE NOMENCLATURE














Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

KV-25XBR
RM-724/APM-X3U

KV-25XBR

RM-724 / APM-X3U

SONY® SERVICE MANUAL

US Model

Chassis No. SCC-595B-A

May, 1985

No. 1

SUPPLEMENT

SUBJECT: CIRCUIT MODIFICATIONS

File the supplement with the service manual.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL		
	Set-up	2
5. DIAGRAMS		
	Schematic Diagrams	3
	Semiconductors	8
7. ELECTRICAL PARTS LIST	18



SECTION 1 GENERAL

SET-UP

LISTENING TO MULTICHANNEL TV SOUND(MTS) BROADCASTS

In the years to come, an increasing number of programs will be broadcast in stereo. Called Multichannel TV Sound or MTS, the new technology will greatly enhance TV viewing by bringing you programs with high fidelity stereo sound. MTS also provides for an extra channel called the Second Audio Program or SAP which broadcasters can use to transmit a second language for bilingual transmissions or some other sound track.

To receive a stereo program

Normally set the AUTO STEREO selector to ON (depressed). In this position, the STEREO lamp on the TV will light up whenever a stereo broadcast is received. To listen to the stereo sound, select the MAIN mode with the MTS button so that the on-screen MAIN indicator appears. The stereo sound will be heard from the left and right speakers.

Every push on the MTS button changes the indicator below the channel number as follows:



When there is a SAP (Second Audio Program) broadcast
Select the SAP mode so that the SAP indicator will be displayed and only the SAP sound will be heard from both speakers.

To listen to both MAIN and SAP broadcasts

Select the BOTH mode so that the BOTH indicator is displayed. The MAIN and SAP sounds will come out from the left and right speakers respectively. The MAIN sound becomes monaural(mixed) even if it is a stereo broadcast, as the sound comes only from the left speaker.

Notes

- The selected mode will be retained even after the power has once been turned off.
- There may be cases of stereo broadcasts where excessive "noise" will be heard due to a weak incoming signal. By switching the AUTO STEREO selector to OFF and returning to a monaural mode, the noise should be eliminated.

KV-25XBR
RM-724/APM-X3U

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

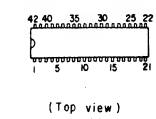




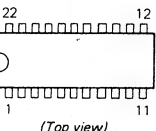


5-2. SEMICONDUCTORS

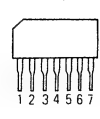
AN6291
CX530-507N
CX-848



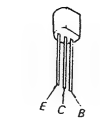
CX-7958
μPC1377C



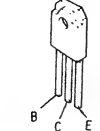
TA7133P



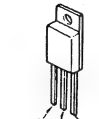
2SA733
2SC1363



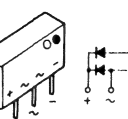
2SD1497



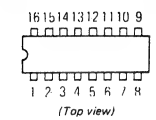
CTL-12S
CTU-24S



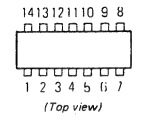
S1VB10-S
S1VB20



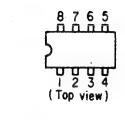
AN78L05
MC1453BCP
TC4052BP
TC4053BP
TDA1082
μPD4052BC
μPD4053BC
μPD6326C



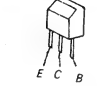
CXK1001P



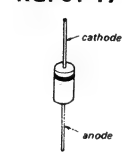
TL4558P-B
μPC4558C



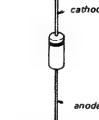
2SB734
2SC2958
2SC2959
2SD774



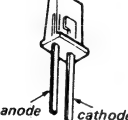
10E2
EQA02-12B5
EQA02-32A
ES1F
GP08D
HZT33-02
RGP01-17



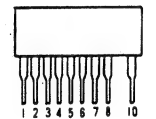
EM-12S
RM2CS



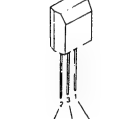
SR632D



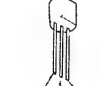
DM-21



μPC78L05A



2SB740
2SC1475
2SD788
2SD789



1S1555
EQA02-05A5
EQA02-05F5
EQA02-06A5
EQA02-06D5
EQA02-10B5
RD10EN3
RD13EN2
RD24EBZ7
RD33EB2
RD33EB3
RD3.6E-N1
RD3.6E-N2
RD3.9EN2
RD4.7EN2
RD5.6EB2
RD5.6EBZ7S
RD5.6EL2
RD5.6EN1
RD5.6EN2
RD5.6EN3
RD6.2EN1
RD6.2EN2
RD6.2EN3
RD6.2E-B



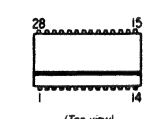
ERC26-15S



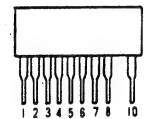
SY432D



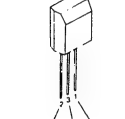
CX10026



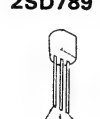
LA3375



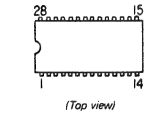
2SA1026



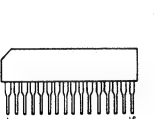
2SC1652



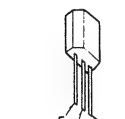
CX20014A
CX20100
CX20125
CX526-025



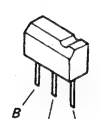
LA3375



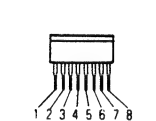
2SA1048
2SA1115
2SC2458
2SC2603
2SC2669



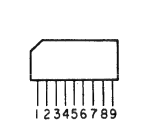
2SC2901



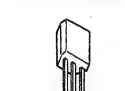
CX20106



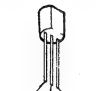
LA7910



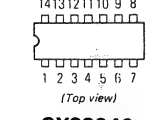
2SA1048
2SA1115
2SC2458
2SC2603
2SC2669



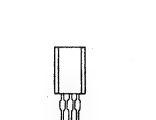
2SC2901



CX20139
SN74LS05N
SN74LS09N
TC4066BP
TC4071BP
μPD4066BC
μPD4071BC



NJM78L05A



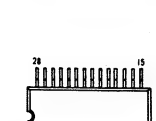
2SA1175
2SC2785
2SC2785F



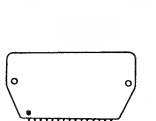
2SC3163
2SC3317



CX23040



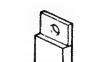
STK-4362



2SA1220A
2SC2611
2SC2690A
2SC2752



2SD1406
2SD880



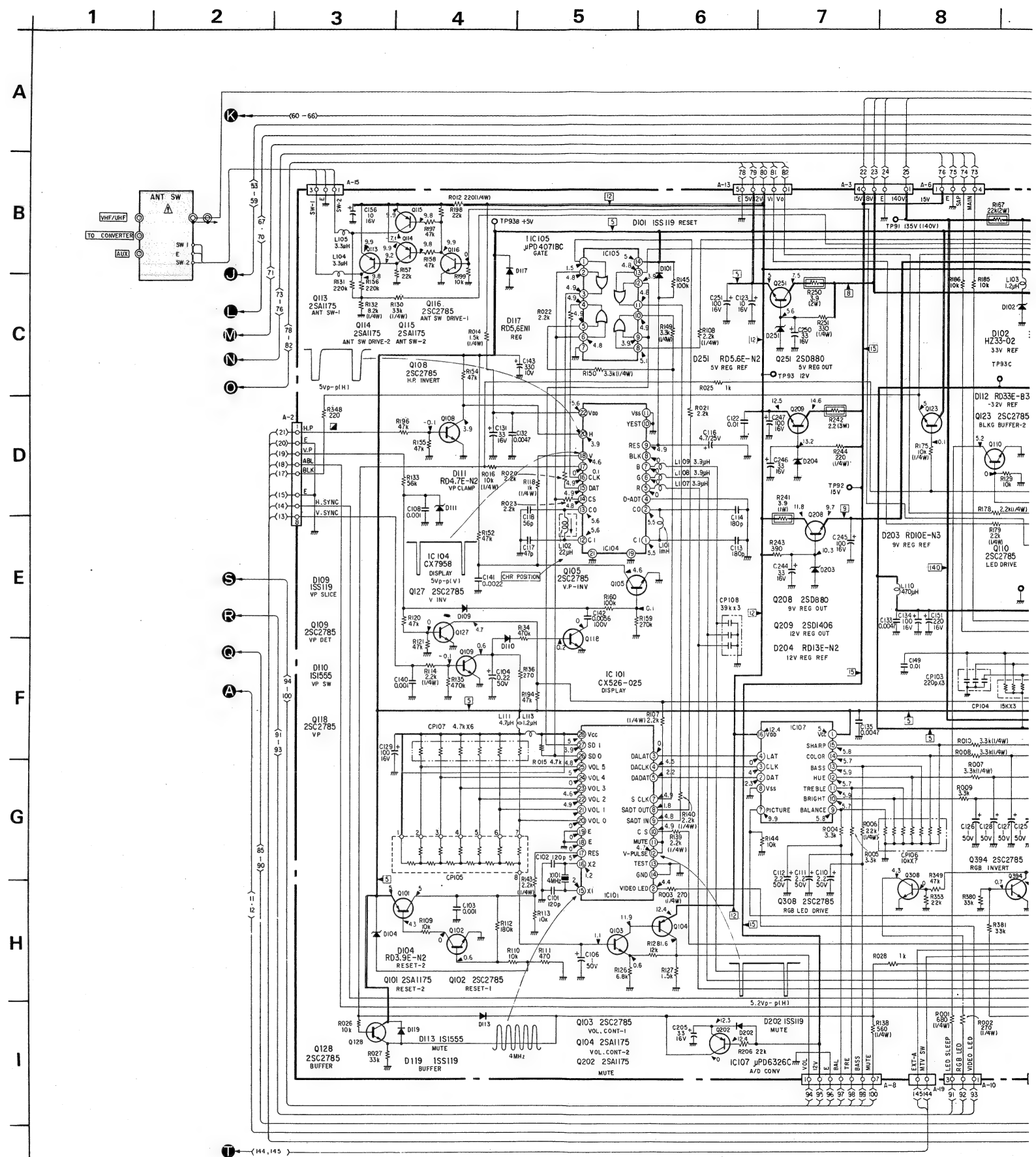
1SS119
1SS120
1SS133
1SS148

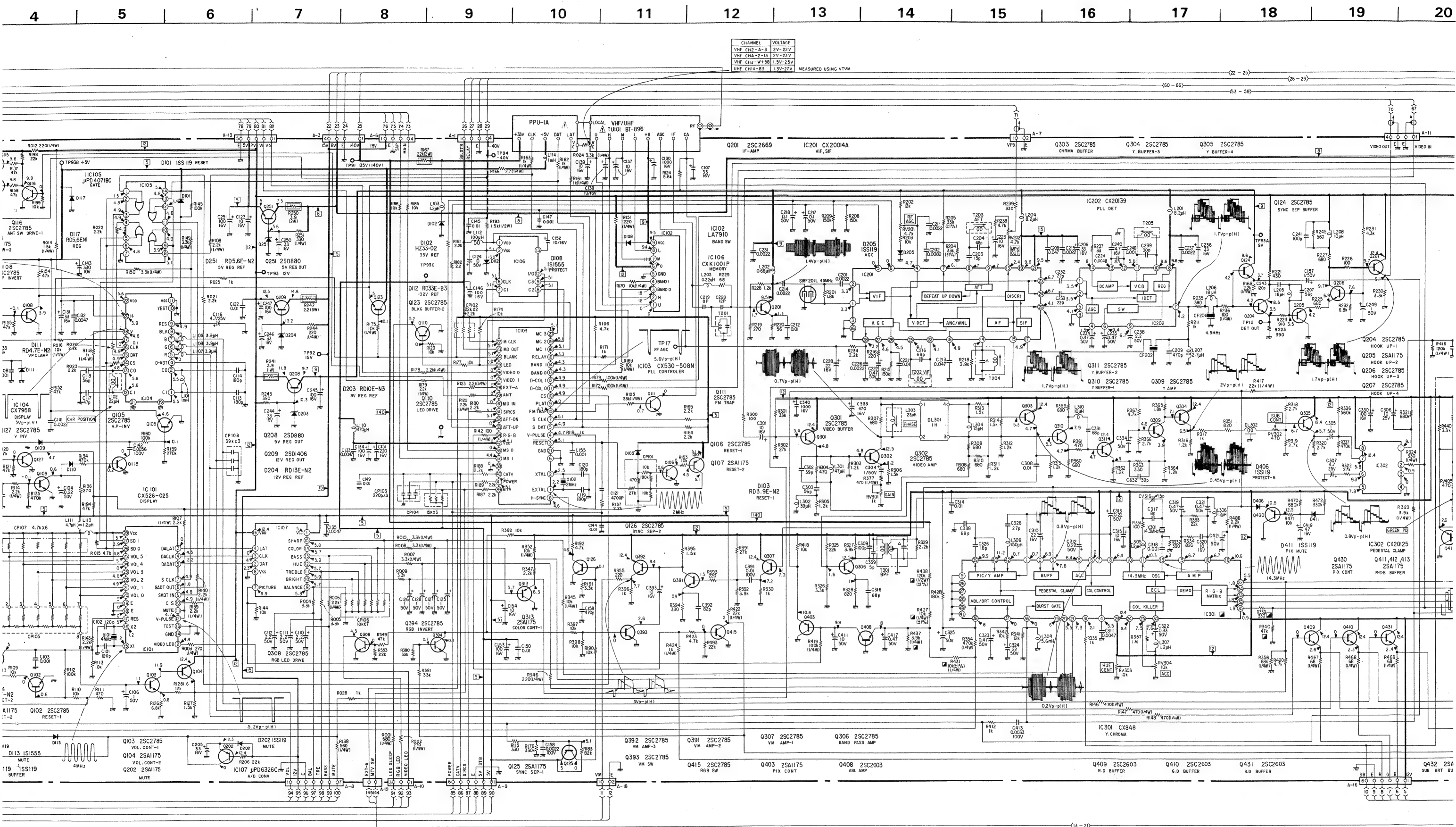


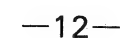
PH302B

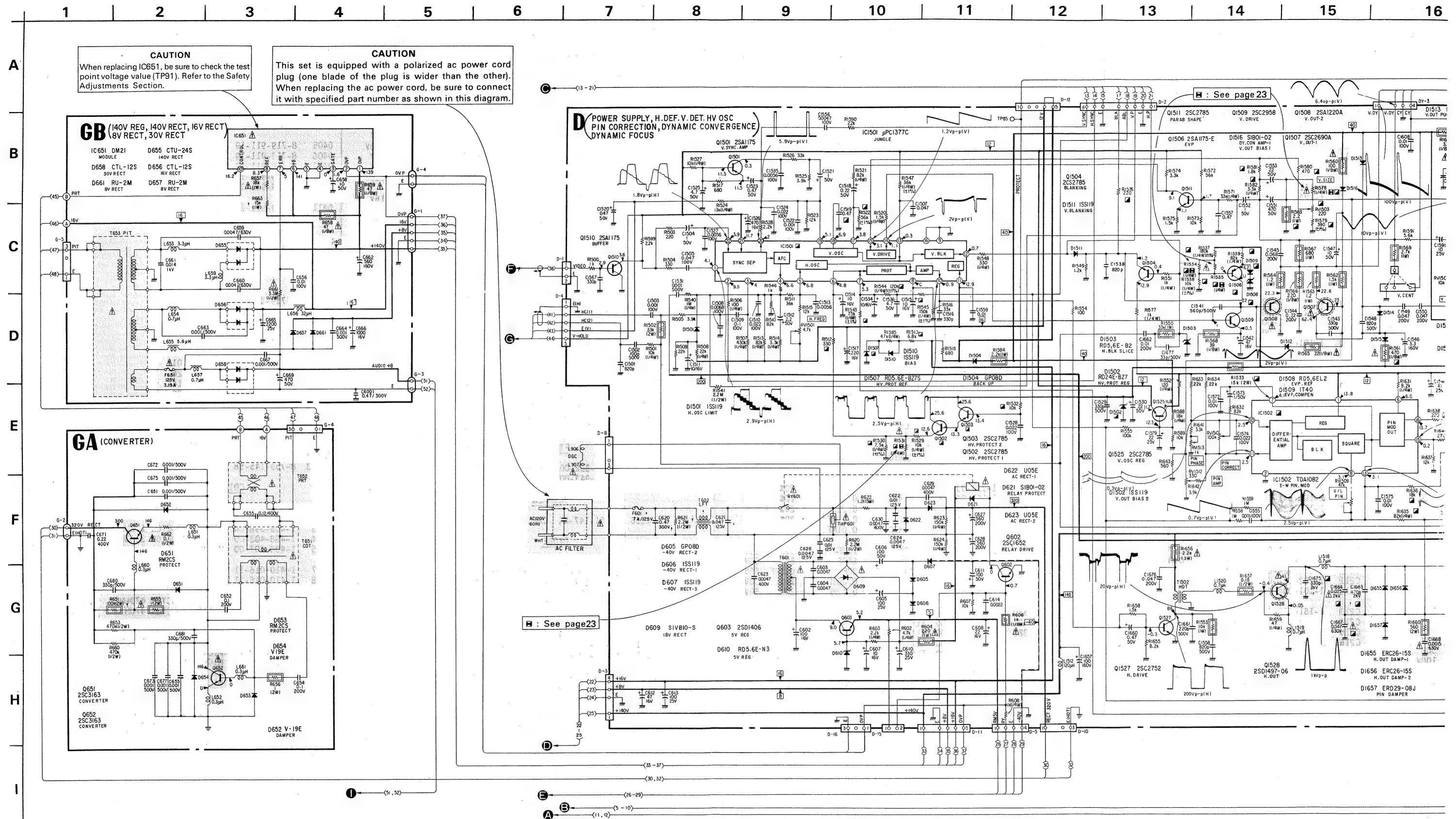


RH-1A
RH-1Z
RU-2M
SIB01-02











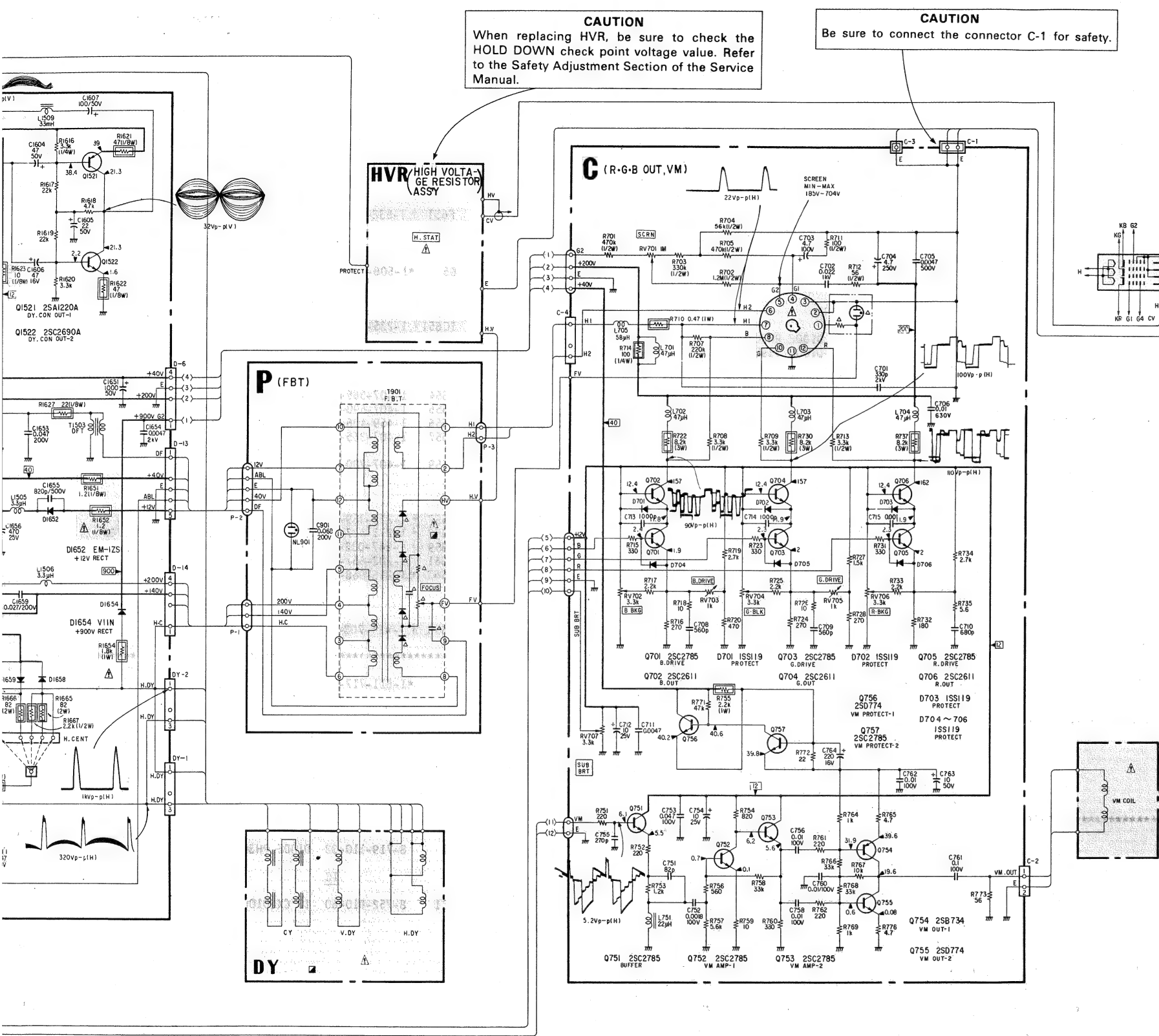




- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.
- Readings are taken with a color-bar signal input.
- ——— : B+ bus.
- - - - : B - bus.
- Voltage variations may be noted due to normal production tolerances.
- : adjustment for repair.

- All Capacitors are in μF unless otherwise noted, pF: $\mu\text{M}\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted.
 $k\Omega = 1000\Omega$, $M\Omega = 1000k\Omega$
- Standard for the M Board is 1/4W.
-  : nonflammable resistor.
-  : internal component.
-  : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by  mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved.
 (Refer to R1531, R1534, R1535, R1556, R1578, adjustment on page 23.)
 When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (<input checked="" type="checkbox"/>)	Adjustment (<input checked="" type="checkbox"/>)
D1502, D1507, IC1501 Q1502, Q1503, R427 R431, R437, R438 R1512, R1519, R1529 R1530, R1531, R1532 R1533, R1543, R1544 R1545	R1531
D1508, D1509, IC301 IC401, Q1506, R339 R340, R348, R436 R1534, R1535, R1537 R1538, R1539, R1561 R1576	R1534, R1535
C1663, C1664, C1667 C1675, IC1502, L1514 R1556, R1570, R1635 R1636, R1638, RV1511 FBT, DY	R1556
C1519, C1663, C1664 C1667, C1675, IC1501 L1514, R1522, R1578 R1579, R1580, R1581 R1582, R1583, RV1503 FBT, DY	R1578



T1 T2 P T4

SECTION 7
ELECTRICAL PARTS LIST

GA GB

NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
All resistors are in ohms
F : nonflammable

The components identified by **A** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

CAPACITORS
MF : μ F, PF : μ F

COILS
MMH : mH, UH : μ H

Ref.No.	Part No.	Description	Remark
	*1-613-420-21	T1 BOARD *****	
	*4-345-701-00	HOLDER, LED	
DIODE			
D1301	8-719-106-34	DIODE SR632D	
D1302	8-719-106-34	DIODE SR632D	
D1303	8-719-114-34	DIODE SY432D	
D1304	8-719-114-34	DIODE SY432D	

	*1-613-421-11	T2 BOARD *****	
SWITCH			
S1323A	1-554-303-11	SWITCH, KEY BOARD	

	*1-613-414-11	P BOARD *****	
CAPACITOR			
C901	1-108-431-00	MYLAR 0.068MF 10% 200V	
NEON LAMP			
NL901	1-519-237-11	LAMP, NEON	

	*1-613-422-11	T4 BOARD *****	
	1-562-684-11	SOCKET, DIN 6P	

	*1-613-423-11	GA BOARD *****	
	4-374-104-01	HOLDER, TR	
	4-374-108-01	SPACER, MICA	
CAPACITOR			
C651	1-102-038-00	CERAMIC 0.001MF 500V	
C652	1-136-103-00	FILM 0.1MF 5% 200V	
C653	1-102-038-00	CERAMIC 0.001MF 500V	
C654	1-136-103-00	FILM 0.1MF 5% 200V	
C655	1-136-131-00	FILM 0.12MF 5% 400V	
C671	1-136-120-00	FILM 0.22MF 5% 400V	
C672	1-102-038-00	CERAMIC 0.001MF 500V	
C673	1-102-038-00	CERAMIC 0.001MF 500V	
C675	1-102-038-00	CERAMIC 0.001MF 500V	
C677	1-102-038-00	CERAMIC 0.001MF 500V	

Ref.No.	Part No.	Description	Remark
C679A	1-106-359-00	MYLAR 0.0047MF 10% 200V	
C680	1-102-030-00	CERAMIC 330PF 10% 500V	
C681	1-102-030-00	CERAMIC 330PF 10% 500V	
DIODE			
D651	8-719-301-18	DIODE RM2CS	
D652	8-719-901-93	DIODE V19E	
D653	8-719-301-18	DIODE RM2CS	
D654	8-719-901-93	DIODE V19E	
CONNECTOR			
G4	*1-508-765-00	3P PLUG (M)	
COIL			
L651	1-425-612-00	COIL, ARE-CORE	
L652	1-425-612-00	COIL, ARE-CORE	
L660	1-425-612-00	COIL, ARE-CORE	
L661	1-425-612-00	COIL, ARE-CORE	
TRANSISTOR			
Q651A	8-729-902-00	TRANSISTOR 2SC3163	
Q652A	8-729-902-00	TRANSISTOR 2SC3163	
RESISTOR			
R651A	1-214-597-61	METAL OXIDE 100K 5% 2W F	
R653	1-202-637-00	SOLID 470K 5% 1/2W	
R655A	1-206-439-61	METAL OXIDE 1 5% 2W F	
R656	1-206-439-00	METAL OXIDE 1 5% 2W F	
R660	1-202-637-00	SOLID 470K 5% 1/2W	
R662A	1-207-451-11	WIREWOUND 0.1 10% 1/2W	
TRANSFORMER			
T651A	1-421-695-11	CDT	
T652A	1-421-710-11	PRT	

	*1-613-424-11	GB BOARD *****	
CAPACITOR			
C656	1-106-196-00	MYLAR 0.01MF 10% 100V	
C658	1-123-356-00	ELECT 10MF 20% 50V	
C659	1-129-710-00	FILM 0.0047MF 10% 630V	
C660	1-129-710-00	FILM 0.0047MF 10% 630V	
C661	1-136-240-11	FILM 0.014MF 5% 1KV	
C662	1-125-294-00	ELECT(BLOCK) 560MF 20% 160V	
C663	1-102-038-00	CERAMIC 0.001MF 500V	
C664	1-102-038-00	CERAMIC 0.001MF 500V	
C665	1-123-338-00	ELECT 2200MF 20% 25V	
C666	1-123-324-00	ELECT 1000MF 20% 16V	
C667	1-102-038-00	CERAMIC 0.001MF 500V	

GB N A

Ref.No.	Part No.	Description	Remark	Ref.N
C669	1-123-363-00	ELECT 470MF 20% 50V		
DIODE				
D655	8-719-300-09	DIODE CTU-24S		R1
	*4-347-706-00	HEAT SINK (TR), D655		R2
D656	8-719-301-09	DIODE CTL-12S		R3
D657	8-719-302-00	DIODE RU-2M		R4
D658	8-719-301-09	DIODE CTL-12S		*****
D661	8-719-302-00	DIODE RU-2M		
FUSE				
F651A	1-532-595-11	FUSE, GLASS TUBE 125V 3.15A		
CONNECTOR				
G5	*1-508-765-00	3P PLUG (M)		A1
MODULE				
IC651A	1-235-445-11	MODULE, POWER (DM-21)		A2
COIL				
L653	1-407-780-00	COIL, SPOOK CHOKE		A3
L654	1-407-365-00	COIL, CHOKE		A6
L655	1-407-690-00	MICRO INDUCTOR 5.6UH		A7
L656	1-459-406-00	COIL (WITH CORE)		A8
L657	1-407-365-00	COIL, CHOKE		A9
L659	1-407-780-00	COIL, SPOOK CHOKE		A10
RESISTOR				
R657A	1-215-969-51	METAL 18K 1W		A11
R658A	1-211-427-11	CARBON 100 5% 1/8W F		A12
R659A	1-247-033-11	CARBON 100 5% 1/8W F		A13
R661A	1-202-657-15	SOLID 3.3M 5% 1/2W		A14
R663A	1-215-968-21	METAL 15K 1W		A15
TRANSFORMER				
T653A	1-421-703-12	PIT		A16

	*1-611-717-11	N BOARD *****		A18
CAPACITOR				
C1	1-123-611-00	ELECT 1MF 20% 50V		A19
C2	1-123-613-00	ELECT 3.3MF 20% 50V		
C3	1-102-820-00	CERAMIC 330PF 5% 50V		
C4	1-123-821-00	ELECT 47MF 20% 16V		
DIODE				
D1	8-719-110-32	DIODE PH302B		
IC				
IC1	8-752-010-60	IC CX20106		

GA GB

GB N A

A

arts by refer-
ease include

in this manual have
each set in order to
radiation. Should
only with the value

Remark

10% 200V
10% 500V
10% 500V

2W F
1/2W
2W F
2W F
1/2W

10% 100V
20% 50V
10% 630V
10% 630V
5% 1KV

20% 160V
20% 500V
20% 500V
20% 25V
20% 16V
500V

Ref.No.	Part No.	Description	Remark
C669	1-123-363-00	ELECT 470MF 20% 50V	
DIODE			
D655	8-719-300-09	DIODE CTU-24S	
	*4-347-706-00	HEAT SINK (TR), D655	
D656	8-719-301-09	DIODE CTL-12S	
D657	8-719-302-00	DIODE RU-2M	
D658	8-719-301-09	DIODE CTL-12S	
D661	8-719-302-00	DIODE RU-2M	
FUSE			
F651	A 1-532-595-11	FUSE, GLASS TUBE 125V 3.15A	
CONNECTOR			
G5	*1-508-765-00	3P PLUG (M)	
MODULE			
IC651	A 1-235-445-11	MODULE, POWER (DM-21)	
COIL			
L653	1-407-780-00	COIL, SPOOK CHOKE	
L654	1-407-365-00	COIL, CHOKE	
L655	1-407-690-00	MICRO INDUCTOR 5.6UH	
L656	1-459-406-00	COIL (WITH CORE)	
L657	1-407-365-00	COIL, CHOKE	
L659	1-407-780-00	COIL, SPOOK CHOKE	
RESISTOR			
R657	A 1-215-969-51	METAL 18K 1W	
R658	A 1-211-427-11	CARBON 100 5% 1/8W F	
R659	A 1-247-033-11	CARBON 100 5% 1/8W F	
R661	A 1-202-657-15	SOLID 3.3M 5% 1/2W	
R663	A 1-215-968-21	METAL 15K 1W	
TRANSFORMER			
T653	A 1-421-703-12	PIT	

	*1-611-717-11	N BOARD	

CAPACITOR			
C1	1-123-611-00	ELECT 1MF 20% 50V	
C2	1-123-613-00	ELECT 3.3MF 20% 50V	
C3	1-102-820-00	CERAMIC 330PF 5% 50V	
C4	1-123-821-00	ELECT 47MF 20% 16V	
DIODE			
D1	8-719-110-32	DIODE PH302B	
IC			
IC1	8-752-010-60	IC CX20106	

Ref.No.	Part No.	Description	Remark
RESISTOR			
R1	1-247-799-00	CARBON 47 5% 1/6W	
R2	1-247-775-00	CARBON 4.7 5% 1/6W	
R3	1-214-784-00	METAL 200K 1% 1/4W	
R4	1-247-863-00	CARBON 22K 5% 1/6W	

	*A-1295-916-A	A BOARD, COMPLETE	

	A 1-463-471-33	SYNTHESIZER UNIT, FREQUENCY	
	*1-551-382-00	CABLE P-P	
CONNECTOR			
A1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
A3	*1-508-766-00	4P PLUG (M)	
A6	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A7	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
A8	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P	
A9	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
A10	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P	
A11	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
A12	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
A13	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
A14	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P	
A15	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P	
A16	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
A18	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
A19	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
CAPACITOR			
C101	1-102-816-00	CERAMIC 120PF 5% 50V	
C102	1-102-816-00	CERAMIC 120PF 5% 50V	
C103	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C104	1-123-447-00	ELECT 0.22MF 20% 50V	
C106	1-123-380-00	ELECT 1MF 20% 50V	
C107	1-123-318-00	ELECT 33MF 20% 16V	
C108	1-101-001-00	CERAMIC 0.001MF 50V	
C110	1-123-381-00	ELECT 2.2MF 20% 50V	
C111	1-123-381-00	ELECT 2.2MF 20% 50V	
C112	1-123-381-00	ELECT 2.2MF 20% 50V	
C113	1-102-976-00	CERAMIC 180PF 5% 50V	
C114	1-102-976-00	CERAMIC 180PF 5% 50V	
C116	1-123-369-00	ELECT 4.7MF 20% 25V	
C117	1-101-880-00	CERAMIC 47PF 5% 50V	
C118	1-101-884-00	CERAMIC 56PF 5% 50V	
C119	1-102-976-00	CERAMIC 180PF 5% 50V	
C120	1-102-976-00	CERAMIC 180PF 5% 50V	
C121	1-106-188-00	MYLAR 0.0047MF 10% 100V	
C122	1-101-004-00	CERAMIC 0.01MF 50V	
C123	1-123-356-00	ELECT 10MF 20% 16V	

Ref.No.	Part No.	Description	Remark
C124	1-123-356-00	ELECT 10MF 20% 50V	
C125	1-123-380-00	ELECT 1MF 20% 50V	
C126	1-123-380-00	ELECT 1MF 20% 50V	
C127	1-123-380-00	ELECT 1MF 20% 50V	
C128	1-123-380-00	ELECT 1MF 20% 50V	
C129	1-119-129-00	ELECT 100MF 16V	
C130	1-123-324-00	ELECT 1000MF 20% 16V	
C131	1-123-318-00	ELECT 33MF 20% 16V	
C132	1-101-003-00	CERAMIC 0.0047MF 50V	
C133	1-101-003-00	CERAMIC 0.0047MF 50V	
C134	1-123-333-00	ELECT 100MF 20% 16V	
C135	1-101-003-00	CERAMIC 0.0047MF 50V	
C137	1-123-356-00	ELECT 10MF 20% 16V	
C138	1-123-356-00	ELECT 10MF 20% 16V	
C139	1-123-356-00	ELECT 10MF 20% 16V	
C140	1-101-001-00	CERAMIC 0.001MF 50V	
C141	1-101-002-00	CERAMIC 0.0022MF 50V	
C142	1-106-190-00	MYLAR 0.0056MF 10% 100V	
C143	1-123-309-00	ELECT 330MF 10V	
C144	1-101-004-00	CERAMIC 0.01MF 50V	
C145	1-101-004-00	CERAMIC 0.01MF 50V	
C146	1-123-333-00	ELECT 100MF 20% 16V	
C147	1-101-001-00	CERAMIC 0.001MF 50V	
C149	1-101-004-00	CERAMIC 0.01MF 50V	
C150	1-101-004-00	CERAMIC 0.01MF 50V	
C151	1-119-135-00	ELECT 220MF 16V	
C152	1-123-356-00	ELECT 10MF 20% 16V	
C153	1-123-333-00	ELECT 100MF 20% 16V	
C154	1-123-356-00	ELECT 10MF 20% 16V	
C155	1-161-323-00	CERAMIC 0.001MF 10% 50V	
C156	1-123-356-00	ELECT 10MF 20% 16V	
C157	1-123-380-00	ELECT 1MF 20% 50V	
C158	1-106-180-00	MYLAR 0.0022MF 10% 100V	
C159	1-102-824-00	CERAMIC 470PF 5% 50V	
C201	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C202	1-102-128-00	CERAMIC 0.0082MF 10% 50V	
C203	1-102-851-00	CERAMIC 15PF 5% 50V	
C204	1-102-525-00	CERAMIC 68PF 5% 50V	
C205	1-123-318-00	ELECT 33MF 20% 16V	
C206	1-123-318-00	ELECT 33MF 20% 16V	
C207	1-101-884-00	CERAMIC 56PF 5% 50V	
C208	1-161-059-00	CERAMIC 0.047MF 10% 25V	
C209	1-102-824-00	CERAMIC 470PF 5% 50V	
C211	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C212	1-101-004-00	CERAMIC 0.01MF 50V	
C213	1-161-059-00	CERAMIC 0.047MF 10% 25V	
C214	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C215	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C216	1-102-525-00	CERAMIC 68PF 5% 50V	
C217	1-123-586-00	ELECT 0.1MF 20% 50V	
C218	1-123-586-00	ELECT 0.1MF 20% 50V	
C219	1-102-634-11	CERAMIC 8PF 0.5PF 50V	
C220	1-102-637-00	CERAMIC 12PF 5% 50V	

Ref.No.	Part No.	Description	Remark
C221	1-161-013-00	CERAMIC 0.01MF 10% 25V	
C222	1-123-379-00	ELECT 0.47MF 20% 50V	
C223	1-123-356-00	ELECT 10MF 20% 16V	
C226	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C228	1-123-330-00	ELECT 22MF 20% 16V	
C231	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C232	1-102-959-00	CERAMIC 22PF 5% 50V	
C233	1-102-959-00	CERAMIC 22PF 5% 50V	
C234	1-123-379-00	ELECT 0.47MF 20% 50V	
C235	1-123-379-00	ELECT 0.47MF 20% 50V	
C236	1-123-318-00	ELECT 33MF 20% 16V	
C237	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C238	1-123-381-00	ELECT 2.2MF 20% 50V	
C239	1-102-752-61	CERAMIC 30PF 5% 50V	
C240	1-121-257-00	ELECT 4.7MF 16V	
C241	1-102-973-00	CERAMIC 100PF 5% 50V	
C243	1-102-816-00	CERAMIC 120PF 5% 50V	
C244	1-123-318-00	ELECT 33MF 20% 16V	
C245	1-123-333-00	ELECT 100MF 20% 16V	
C246	1-123-318-00	ELECT 33MF 20% 16V	
C247	1-123-333-00	ELECT 100MF 20% 16V	
C248	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C249	1-123-380-00	ELECT 1MF 20% 50V	
C250	1-123-318-00	ELECT 33MF 20% 16V	
C251	1-123-333-00	ELECT 100MF 20% 16V	
C252	1-123-306-00	ELECT 47MF 20% 6.3V	
C301	1-123-356-00	ELECT 10MF 20% 16V	
C302	1-102-965-00	CERAMIC 39PF 5% 50V	
C303	1-101-884-00	CERAMIC 56PF 5% 50V	
C304	1-123-380-00	ELECT 1MF 20% 50V	
C305	1-123-380-00	ELECT 1MF 20% 50V	
C306	1-123-356-00	ELECT 10MF 20% 25V	
C307	1-123-369-00	ELECT 4.7MF 20% 25V	
C308	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C309	1-102-973-00	CERAMIC 100PF 5% 50V	
C310	1-123-330-00	ELECT 22MF 20% 16V	
C311	1-161-047-00	CERAMIC 0.0047MF 10% 50V	
C312	1-123-447-00	ELECT 0.22MF 20% 50V	
C313	1-123-447-00	ELECT 0.22MF 20% 50V	
C314	1-101-004-00	CERAMIC 0.01MF 50V	
C315	1-123-356-00	ELECT 10MF 20% 16V	
C316	1-101-888-00	CERAMIC 68PF 5% 50V	
C317	1-102-865-00	CERAMIC 8PF 0.5PF 50V	
C318	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C319	1-123-379-00	ELECT 0.47MF 20% 50V	
C320	1-121-806-00	ELECT 10MF 16V	
C321	1-123-379-00	ELECT 0.47MF 20% 50V	
C322	1-123-286-00	ELECT 0.33MF 20% 50V	
C323	1-123-379-00	ELECT 0.47MF 20% 50V	
C324	1-123-357-00	ELECT 22MF 20% 50V	
C325	1-123-380-00	ELECT 1MF 20% 50V	
C326	1-102-953-00	CERAMIC 18PF 5% 50V	
C328	1-161-264-00	CERAMIC 27PF 5% 50V	

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

A

by
cal
ith

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
L301	1-408-450-11	MICRO INDUCTOR 47UH		Q391	8-729-245-83	TRANSISTOR 2SC2458	
L302	1-408-416-00	MICRO INDUCTOR 39UH		Q392	8-729-245-83	TRANSISTOR 2SC2458	
L303	1-404-540-11	COIL		Q393	8-729-245-83	TRANSISTOR 2SC2458	
L304	1-408-411-00	MICRO INDUCTOR 15UH		Q394	8-729-245-83	TRANSISTOR 2SC2458	
L305	1-408-398-00	MICRO INDUCTOR 1.2UH		Q403	8-729-204-83	TRANSISTOR 2SA1048GR	
				Q404	8-729-204-83	TRANSISTOR 2SA1048GR	
L306	1-408-398-00	MICRO INDUCTOR 1.2UH					
L307	1-408-398-00	MICRO INDUCTOR 1.2UH		Q405	8-729-204-83	TRANSISTOR 2SA1048GR	
L308	1-408-163-00	MICRO INDUCTOR 5.6MMH		Q406	8-729-204-83	TRANSISTOR 2SA1048GR	
L309	1-408-456-11	MICRO INDUCTOR 150UH		Q407	8-729-204-83	TRANSISTOR 2SA1048GR	
L310	1-408-409-00	MICRO INDUCTOR 10UH		Q408	8-729-245-83	TRANSISTOR 2SC2458	
L401	1-408-421-00	MICRO INDUCTOR 100UH		Q409	8-729-245-83	TRANSISTOR 2SC2458	

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R100	1-247-895-00	CARBON	470K 5% 1/6W	R162	1-247-131-00	CARBON	1K 5% 1/4W
R106	1-247-847-00	CARBON	4.7K 5% 1/6W	R163	1-247-131-00	CARBON	1K 5% 1/4W
R107	1-247-717-11	CARBON	2.2K 5% 1/4W	R164	1-249-421-11	CARBON	2.2K 5% 1/6W
R108	1-247-717-11	CARBON	2.2K 5% 1/4W	R165	1-249-421-11	CARBON	2.2K 5% 1/6W
R109	1-247-855-00	CARBON	10K 5% 1/6W	R166	1-246-411-00	CARBON	2.7 5% 1/4W
R110	1-247-855-00	CARBON	10K 5% 1/6W				
R111	1-247-823-00	CARBON	470 5% 1/6W	R167	1-206-696-00	METAL OXIDE	22K 5% 2W F
R112	1-247-885-00	CARBON	180K 5% 1/6W	R168	1-247-717-11	CARBON	2.2K 5% 1/4W
R113	1-247-855-00	CARBON	10K 5% 1/6W	R169	1-247-155-00	CARBON	10K 5% 1/4W
R114	1-247-717-11	CARBON	2.2K 5% 1/4W	R170	1-247-155-00	CARBON	10K 5% 1/4W
R115	1-247-819-00	CARBON	330 5% 1/6W	R171	1-247-831-00	CARBON	1K 5% 1/6W
R118	1-247-131-00	CARBON	1K 5% 1/4W	R172	1-247-179-00	CARBON	100K 5% 1/4W
R119	1-247-831-00	CARBON	1K 5% 1/6W	R173	1-247-179-00	CARBON	100K 5% 1/4W
R120	1-247-871-00	CARBON	47K 5% 1/6W	R174	1-247-855-00	CARBON	10K 5% 1/6W
R121	1-247-871-00	CARBON	47K 5% 1/6W	R175	1-247-155-00	CARBON	10K 5% 1/4W
R122	1-247-163-00	CARBON	22K 5% 1/4W	R176	1-247-891-00	CARBON	330K 5% 1/6W
R123	1-247-717-11	CARBON	2.2K 5% 1/4W	R177	1-247-855-00	CARBON	10K 5% 1/6W
R124	1-247-849-00	CARBON	5.6K 5% 1/6W	R178	1-247-717-11	CARBON	2.2K 5% 1/4W
R125	1-247-167-00	CARBON	33K 5% 1/4W	R179	1-247-717-11	CARBON	2.2K 5% 1/4W
R126	1-247-851-00	CARBON	6.8K 5% 1/6W	R180	1-249-421-11	CARBON	2.2K 5% 1/6W
R127	1-247-835-00	CARBON	1.5K 5% 1/6W	R181	1-249-421-11	CARBON	2.2K 5% 1/6W
R128	1-247-857-00	CARBON	12K 5% 1/6W	R182	1-249-421-11	CARBON	2.2K 5% 1/6W
R129	1-247-855-00	CARBON	10K 5% 1/6W	R183	1-247-877-00	CARBON	82K 5% 1/6W
R130	1-247-167-00	CARBON	33K 5% 1/4W	R185	1-247-855-00	CARBON	10K 5% 1/6W
R131	1-247-887-00	CARBON	220K 5% 1/6W	R186	1-247-855-00	CARBON	10K 5% 1/6W
R132	1-247-153-00	CARBON	8.2K 5% 1/4W	R187	1-249-421-11	CARBON	2.2K 5% 1/6W
R133	1-247-873-00	CARBON	56K 5% 1/6W	R188	1-249-421-11	CARBON	2.2K 5% 1/6W
R134	1-247-895-00	CARBON	470K 5% 1/6W	R189	1-249-421-11	CARBON	2.2K 5% 1/6W
R135	1-247-895-00	CARBON	470K 5% 1/6W	R190	1-247-855-00	CARBON	10K 5% 1/6W
R136	1-247-889-00	CARBON	270K 5% 1/6W	R191	1-247-843-00	CARBON	3.3K 5% 1/6W
R137	1-249-421-11	CARBON	2.2K 5% 1/6W	R192	1-247-847-00	CARBON	4.7K 5% 1/6W
R138	1-247-125-00	CARBON	560 1K 5% 1/4W	R193	1-244-877-51	CARBON	1.5K 5% 1/2W
R139	1-247-717-11	CARBON	2.2K 5% 1/4W	R194	1-247-871-00	CARBON	47K 5% 1/6W
R140	1-247-717-11	CARBON	2.2K 5% 1/4W	R196	1-247-871-00	CARBON	47K 5% 1/6W
R142	1-247-107-00	CARBON	100 5% 1/4W	R197	1-247-871-00	CARBON	47K 5% 1/6W
R143	1-247-717-11	CARBON	2.2K 5% 1/4W	R198	1-247-863-00	CARBON	22K 5% 1/6W
R144	1-247-855-00	CARBON	10K 5% 1/6W	R199	1-247-855-00	CARBON	10K 5% 1/6W
R145	1-247-879-00	CARBON	100K 5% 1/6W	R201	1-247-837-00	CARBON	1.8K 5% 1/6W
R146	1-247-123-00	CARBON	470 5% 1/4W	R202	1-247-857-00	CARBON	12K 5% 1/6W
R147	1-247-123-00	CARBON	470 5% 1/4W	R203	1-247-855-00	CARBON	10K 5% 1/6W
R148	1-247-123-00	CARBON	470 5% 1/4W	R204	1-215-457-00	METAL	33K 1% 1/6W
R149	1-247-143-00	CARBON	3.3K 5% 1/4W	R205	1-215-457-00	METAL	33K 1% 1/6W
R150	1-247-143-00	CARBON	3.3K 5% 1/4W	R206	1-247-863-00	CARBON	22K 5% 1/6W
R151	1-247-115-00	CARBON	220 5% 1/4W	R208	1-247-883-00	CARBON	150K 5% 1/6W
R152	1-247-871-00	CARBON	47K 5% 1/6W	R209	1-247-883-00	CARBON	150K 5% 1/6W
R153	1-247-855-00	CARBON	10K 5% 1/6W	R211	1-247-831-00	CARBON	1K 5% 1/6W
R154	1-247-871-00	CARBON	47K 5% 1/6W	R215	1-247-883-00	CARBON	150K 5% 1/6W
R155	1-247-871-00	CARBON	47K 5% 1/6W	R216	1-247-815-00	CARBON	220 5% 1/6W
R156	1-247-887-00	CARBON	220K 5% 1/6W	R218	1-247-845-00	CARBON	3.9K 5% 1/6W
R157	1-247-863-00	CARBON	22K 5% 1/6W	R219	1-247-817-00	CARBON	270 5% 1/6W
R158	1-247-871-00	CARBON	47K 5% 1/6W	R220	1-247-801-00	CARBON	56 5% 1/6W
R159	1-247-889-00	CARBON	270K 5% 1/6W	R221	1-247-822-00	CARBON	430 5% 1/6W
R160	1-247-879-00	CARBON	100K 5% 1/6W	R223	1-247-821-00	CARBON	390 5% 1/6W
R161	1-247-131-00	CARBON	1K 5% 1/4W	R224	1-247-830-00	CARBON	910 5% 1/6W

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R225	1-247-827-00	CARBON	680 5% 1/6W	R331	1-247-807-00	CARBON	100 5% 1/6W
R226	1-247-807-00	CARBON	100 5% 1/6W	R332	1-247-821-00	CARBON	390 5% 1/6W
R227	1-247-827-00	CARBON	680 5% 1/6W	R333	1-247-863-00	CARBON	22K 5% 1/6W
R228	1-247-833-00	CARBON	1.2K 5% 1/6W	R334	1-247-829-00	CARBON	820 5% 1/6W
R229	1-247-803-00	CARBON	68 5% 1/6W	R335	1-247-831-00	CARBON	1K 5% 1/6W
R230	1-247-843-00	CARBON	3.3K 5% 1/6W	R336	1-247-897-00	CARBON	560K 5% 1/6W
R231	1-247-846-00	CARBON	4.3K 5% 1/6W	R337	1-247-895-00	CARBON	470K 5% 1/6W
R232	1-247-851-00	CARBON	6.8K 5% 1/6W	R339	1-247-819-00	CARBON	330 5% 1/6W
R234	1-249-421-11	CARBON	2.2K 5% 1/6W	R340	1-247-871-00	CARBON	47K 5% 1/6W
R235	1-247-821-00	CARBON	390 5% 1/6W	R341	1-247-857-00	CARBON	12K 5% 1/6W
R236	1-247-107-00	CARBON	100 5% 1/4W	R342	1-247-855-00	CARBON	10K 5% 1/6W
R237	1-247-795-00	CARBON	33 5% 1/6W	R345	1-247-155-00	CARBON	10K 5% 1/4W
R238	1-247-847-00	CARBON	4.7K 5% 1/6W	R346	1-247-115-00	CARBON	220 5% 1/4W
R239	1-247-819-00	CARBON	330 5% 1/6W	R347	1-249-421-11	CARBON	2.2K 5% 1/6W
R241	1-212-367-00	METAL OXIDE	3.9 5% 1W F	R348	1-247-815-00	CARBON	220 5% 1/6W
R242	1-206-495-00	METAL OXIDE	2.2 5% 3W F	R349	1-247-871-00	CARBON	47K 5% 1/6W
R243	1-247-821-00	CARBON	390 5% 1/6W	R350	1-247-815-00	CARBON	220 5% 1/6W
R244	1-247-115-00	CARBON	220 5% 1/4W	R351	1-247-829-00	CARBON	820 5% 1/6W
R245	1-247-825-00	CARBON	560 5% 1/6W	R352	1-247-155-00	CARBON	10K 5% 1/4W
R250	1-206-453-00	METAL OXIDE	3.9 5% 2W F	R353	1-247-863-00	CARBON	22K 5% 1/6W
R251	1-247-119-00	CARBON	330 5% 1/4W	R354	1-246-537-00	CARBON	470K 5% 1/4W
R256	1-247-025-00	CARBON	3.9 5% 1/8W F	R355	1-247-815-00	CARBON	220 5% 1/6W
R300	1-247-807-00	CARBON	100 5% 1/6W	R356	1-246-517-25	CARBON	68K 5% 1/4W
R301	1-247-867-00	CARBON	33K 5% 1/6W	R357	1-247-903-00	CARBON	1M 5% 1/6W
R302	1-247-865-00	CARBON	27K 5% 1/6W	R359	1-247-827-00	CARBON	680 5% 1/6W
R303	1-247-833-00	CARBON	1.2K 5% 1/6W	R360	1-247-827-00	CARBON	680 5% 1/6W
R304	1-247-823-00	CARBON	470 5% 1/6W	R361	1-247-823-00	CARBON	470 5% 1/6W
R305	1-247-833-00	CARBON	1.2K 5% 1/6W	R362	1-247-833-00	CARBON	1.2K 5% 1/6W
R306	1-247-835-00	CARBON	1.5K 5% 1/6W	R363	1-247-819-00	CARBON	330 5% 1/6W
R307	1-247-827-00	CARBON	680 5% 1/6W	R364	1-247-833-00	CARBON	1.2K 5% 1/6W
R308	1-247-827-00	CARBON	680 5% 1/6W	R365	1-247-837-00	CARBON	1.8K 5% 1/6W
R309	1-247-827-00	CARBON	680 5% 1/6W	R366	1-247-841-00	CARBON	2.7K 5% 1/6W
R310	1-247-827-00	CARBON	680 5% 1/6W	R367	1-247-847-00	CARBON	4.7K 5% 1/6W
R311	1-247-833-00	CARBON	1.2K 5% 1/6W	R377	1-247-123-00	CARBON	470 5% 1/4W
R312	1-247-833-00	CARBON	1.2K 5% 1/6W	R380	1-247-867-00	CARBON	33K 5% 1/6W
R313	1-247-835-00	CARBON	1.5K 5% 1/6W	R381	1-247-867-00	CARBON	33K 5% 1/6W
R314	1-247-835-00	CARBON	1.5K 5% 1/6W	R382	1-247-855-00	CARBON	10K 5% 1/6W
R315	1-247-833-00	CARBON	1.2K 5% 1/6W	R391	1-247-865-00	CARBON	27K 5% 1/6W
R316	1-247-833-00	CARBON	1.2K 5% 1/6W	R392	1-247-845-00	CARBON	3.9K 5% 1/6W
R317	1-247-831-00	CARBON	1K 5% 1/6W	R393	1-247-815-00	CARBON	220 5% 1/6W
R318	1-247-841-00	CARBON	2.7K 5% 1/6W	R394	1-247-819-00	CARBON	330 5% 1/6W
R319	1-247-841-00	CARBON	2.7K 5% 1/6W	R395	1-247-835-00	CARBON	1.5K 5% 1/6W
R320	1-247-841-00	CARBON	2.7K 5% 1/6W	R396	1-247-831-00	CARBON	1K 5% 1/6W
R321	1-247-899-00	CARBON	680K 5% 1/6W	R397	1-247-855-00	CARBON	10K 5% 1/6W
R322	1-247-865-00	CARBON	27K 5% 1/6W	R398	1-247-855-00	CARBON	10K 5% 1/6W
R323	1-247-145-00	CARBON	3.9K 5% 1/4W	R401	1-247-115-00	CARBON	220 5% 1/4W
R324	1-247-119-00	CARBON	330 5% 1/4W	R402	1-247-115-00	CARBON	220 5% 1/4W
R325	1-247-863-00	CARBON	22K 5% 1/6W	R403	1-247-115-00	CARBON	220 5% 1/4W
R326	1-247-843-00	CARBON	3.3K 5% 1/6W	R404	1-247-849-00	CARBON	5.6K 5% 1/6W
R327	1-247-845-00	CARBON	3.9K 5% 1/6W	R405	1-247-839-00	CARBON	2.2K 5% 1/6W
R328	1-247-829-00	CARBON	820 5% 1/6W	R406	1-247-833-00	CARBON	1.2K 5% 1/6W
R329	1-249-421-11	CARBON	2.2K 5% 1/6W	R408	1-247-839-00	CARBON	2.2K 5% 1/6W
R330	1-247-831-00	CARBON	1K 5% 1/6W	R410	1-215-406-00	METAL	240 1% 1/6W
				R411	1-214-717-00	METAL	330 1% 1/4W

A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R412	1-247-831-00	CARBON	1K 5% 1/6W	R477	1-247-131-00	CARBON	1K 5% 1/4W
R414	1-247-179-00	CARBON	100K 5% 1/4W	R478	1-247-131-00	CARBON	1K 5% 1/4W
R416	1-246-523-00	CARBON	120K 5% 1/4W	R479	1-247-147-00	CARBON	4.7K 5% 1/4W
R417	1-247-163-00	CARBON	22K 5% 1/4W	R480	1-215-406-00	METAL	240 1% 1/6W
R418	1-247-855-00	CARBON	10K 5% 1/6W	R481	1-247-805-00	CARBON	82 5% 1/6W
R419	1-247-179-00	CARBON	100K 5% 1/4W	R482	1-247-843-00	CARBON	3.3K 5% 1/6W
R420	1-247-847-00	CARBON	4.7K 5% 1/6W	R483	1-247-843-00	CARBON	3.3K 5% 1/6W
R421	1-214-717-00	METAL	330 1% 1/4W	R486	1-247-815-00	CARBON	220 5% 1/6W
R422	1-247-163-00	CARBON	22K 5% 1/4W	R487B	1-247-804-00	CARBON	75 5% 1/6W
R423	1-247-871-00	CARBON	47K 5% 1/6W	R488	1-247-717-11	CARBON	2.2K 5% 1/4W
R424	1-247-131-00	CARBON	1K 5% 1/4W	R490	1-247-163-00	CARBON	22K 5% 1/4W
R425	1-249-421-11	CARBON	2.2K 5% 1/6W	R493	1-247-863-00	CARBON	22K 5% 1/6W
R426	1-247-177-00	CARBON	82K 5% 1/4W	<u>VARIABLE RESISTOR</u>			
R427	1-214-753-00	METAL	10K 1% 1/4W	RV201	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R428	1-247-885-00	CARBON	180K 5% 1/6W	RV202	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R429	1-247-129-00	CARBON	820 5% 1/4W	RV301	1-228-720-00	RES, ADJ, CERAMIC CARBON	1K
R431	1-214-753-00	METAL	10K 1% 1/4W	RV302	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R435	1-247-115-00	CARBON	220 5% 1/4W	RV303	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R436	1-247-115-00	CARBON	220 5% 1/4W	RV304	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R437	1-247-145-00	CARBON	3.9K 5% 1/4W	RV401	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R438	1-214-915-00	METAL	120K 1% 1/2W	RV402	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
R439	1-214-717-00	METAL	330 1% 1/4W	RV403	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
R440	1-247-843-00	CARBON	3.3K 5% 1/6W	RV404	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R441	1-247-843-00	CARBON	3.3K 5% 1/6W	RV405	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
R442	1-247-843-00	CARBON	3.3K 5% 1/6W	RV407	1-228-722-00	RES, ADJ, CERAMIC CARBON	3.3K
R443	1-247-834-00	CARBON	1.3K 5% 1/6W	<u>FILTER</u>			
R444	1-247-827-00	CARBON	680 5% 1/6W	SWF201	1-404-479-00	SAWF	45MHZ
R445	1-247-833-00	CARBON	1.2K 5% 1/6W	<u>TRANSFORMER</u>			
R449	1-247-855-00	CARBON	10K 5% 1/6W	T201	1-404-541-11	COIL	
R450	1-247-879-00	CARBON	100K 5% 1/6W	T202	1-404-467-00	COIL, VIF	
R451	1-247-879-00	CARBON	100K 5% 1/6W	T203	1-404-467-00	COIL, VIF	
R452	1-247-879-00	CARBON	100K 5% 1/6W	T204	1-404-505-00	COIL	
R453	1-247-849-00	CARBON	5.6K 5% 1/6W	T205	1-404-489-00	COIL	
R454	1-247-879-00	CARBON	100K 5% 1/6W	T301	1-425-786-00	TRANSFORMER, BANDPASS(BPT)	
R455	1-215-453-00	METAL	22K 1% 1/6W	<u>TUNER</u>			
R456	1-215-432-00	METAL	3K 1% 1/6W	TU101A	1-463-470-00	TUNER, ET (BT-896)	
R457	1-215-421-00	METAL	1K 1% 1/6W	<u>CRYSTAL</u>			
R459	1-247-869-00	CARBON	39K 5% 1/6W	X101	1-567-192-11	OSCILLATOR, CERAMIC	
R460	1-247-855-00	CARBON	10K 5% 1/6W	X102	1-567-254-11	OSCILLATOR, CERAMIC	
R461	1-247-847-00	CARBON	4.7K 5% 1/6W	X301	1-527-722-00	OSCILLATOR, CRYSTAL	
R462	1-247-831-00	CARBON	1K 5% 1/6W				
R463	1-247-831-00	CARBON	1K 5% 1/6W				
R464	1-247-107-00	CARBON	100 5% 1/4W				
R465	1-247-107-00	CARBON	100 5% 1/4W				
R466	1-247-107-00	CARBON	100 5% 1/4W				
R467	1-247-103-00	CARBON	68 5% 1/4W				
R468	1-247-103-00	CARBON	68 5% 1/4W				
R469	1-247-103-00	CARBON	68 5% 1/4W				
R470	1-247-899-00	CARBON	680K 5% 1/6W				
R471	1-247-855-00	CARBON	10K 5% 1/6W				
R472	1-247-891-00	CARBON	330K 5% 1/6W				
R475	1-247-131-00	CARBON	1K 5% 1/4W				
R476	1-247-131-00	CARBON	1K 5% 1/4W				

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

M

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*1-613-419-21 M BOARD *****				RESISTOR			
CAPACITOR				R1301	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1301	1-102-978-00	CERAMIC 220PF 5%	50V	R1302	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1302	1-102-978-00	CERAMIC 220PF 5%	50V	R1303	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1303	1-101-004-00	CERAMIC 0.01MF	50V	R1304	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1304	1-123-318-00	ELECT 33MF 20%	16V	R1305	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1305	1-106-196-00	MYLAR 0.01MF 10%	100V	R1306	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1306	1-123-333-00	ELECT 100MF 20%	16V	R1307	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1307	1-102-822-00	CERAMIC 390PF 5%	50V	R1308	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1308	1-101-888-00	CERAMIC 68PF 5%	50V	R1309	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1309	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1310	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1310	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1311	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1311	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1312	1-247-171-00	CARBON 47K 5% 1/4W	
C1312	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1313	1-247-179-00	CARBON 100K 5% 1/4W	
C1313	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1314	1-247-717-11	CARBON 2.2K 5% 1/4W	
C1314	1-102-074-00	CERAMIC 0.001MF 10%	50V	R1315	1-246-529-00	CARBON 220K 5% 1/4W	
DIODE				R1316	1-247-147-00	CARBON 4.7K 5% 1/4W	
D1305	8-719-911-19	DIODE 1SS119		R1317	1-247-133-00	CARBON 1.2K 5% 1/4W	
D1306	8-719-911-19	DIODE 1SS119		R1318	1-247-123-00	CARBON 470 5% 1/4W	
D1307	8-719-911-19	DIODE 1SS119		R1319	1-247-107-00	CARBON 100 5% 1/4W	
D1308	8-719-911-19	DIODE 1SS119		R1320	1-247-155-00	CARBON 10K 5% 1/4W	
D1310	8-719-911-19	DIODE 1SS119		R1321	1-247-123-00	CARBON 470 5% 1/4W	
D1313	8-719-911-19	DIODE 1SS119		R1322	1-247-717-11	CARBON 2.2K 5% 1/4W	
D1314	8-719-911-19	DIODE 1SS119		R1323	1-247-717-11	CARBON 2.2K 5% 1/4W	
D1316	8-719-911-19	DIODE 1SS119		R1324	1-247-717-11	CARBON 2.2K 5% 1/4W	
D1317	8-719-911-19	DIODE 1SS119		R1325	1-247-155-00	CARBON 10K 5% 1/4W	
D1320	8-719-911-19	DIODE 1SS119		R1326	1-247-163-00	CARBON 22K 5% 1/4W	
D1321	8-719-911-19	DIODE 1SS119		R1327	1-247-119-00	CARBON 330 5% 1/4W	
D1322	8-719-102-58	DIODE RD3.6E-N2		R1328	1-247-091-00	CARBON 22 5% 1/4W	
IC				R1329	1-247-159-00	CARBON 15K 5% 1/4W	
IC1301	8-759-909-49	IC CX23040		R1330	1-247-717-11	CARBON 2.2K 5% 1/4W	
COIL				R1331	1-247-717-11	CARBON 2.2K 5% 1/4W	
L1301	1-407-705-00	MICRO INDUCTOR 100UH		R1332	1-247-717-11	CARBON 2.2K 5% 1/4W	
CONNECTOR				R1333	1-247-717-11	CARBON 2.2K 5% 1/4W	
M1	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		R1334	1-247-717-11	CARBON 2.2K 5% 1/4W	
M2	*1-564-354-21	PLUG, CONNECTOR (2.5MM) 3P		R1335	1-247-717-11	CARBON 2.2K 5% 1/4W	
M3	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		R1336	1-247-131-00	CARBON 1K 5% 1/4W	
M5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		R1337	1-247-717-11	CARBON 2.2K 5% 1/4W	
M8	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		R1338	1-247-717-11	CARBON 2.2K 5% 1/4W	
TRANSISTOR				R1339	1-247-717-11	CARBON 2.2K 5% 1/4W	
Q1301	8-729-245-83	TRANSISTOR 2SC2458		R1340	1-247-717-11	CARBON 2.2K 5% 1/4W	
Q1302	8-729-245-83	TRANSISTOR 2SC2458		R1341	1-247-717-11	CARBON 2.2K 5% 1/4W	
Q1303	8-729-245-83	TRANSISTOR 2SC2458		R1342	1-247-717-11	CARBON 2.2K 5% 1/4W	
				SWITCH			
				S1301	1-553-976-00	SWITCH, PUSH	
				S1302	1-553-976-00	SWITCH, PUSH	
				S1303	1-553-976-00	SWITCH, PUSH	
				S1304	1-553-976-00	SWITCH, PUSH	
				S1305	1-570-061-11	SWITCH, PUSH (8 KEY)	
				S1306	1-570-061-11	SWITCH, PUSH (8 KEY)	
				S1307	1-570-061-11	SWITCH, PUSH (8 KEY)	



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
S1308	1-570-061-11	SWITCH, PUSH (8 KEY)		C764	1-123-321-00	ELECT 220MF 20% 16V	
S1309	1-553-976-00	SWITCH, PUSH				DIODE	
S1310	1-570-061-11	SWITCH, PUSH (8 KEY)		D701	8-719-911-19	DIODE 1SS119	
S1311	1-553-976-00	SWITCH, PUSH		D702	8-719-911-19	DIODE 1SS119	
S1312	1-570-061-11	SWITCH, PUSH (8 KEY)		D703	8-719-911-19	DIODE 1SS119	
				D704	8-719-911-19	DIODE 1SS119	
S1313	1-570-061-11	SWITCH, PUSH (8 KEY)		D705	8-719-911-19	DIODE 1SS119	
S1316	1-570-062-11	SWITCH, PUSH (2 KEY)		D706	8-719-911-19	DIODE 1SS119	
S1317	1-570-062-11	SWITCH, PUSH (2 KEY)				COIL	
S1319	1-570-061-11	SWITCH, PUSH (8 KEY)		L701	1-407-701-00	MICRO INDUCTOR 47UH	
S1321	1-554-824-11	SWITCH, PUSH (1 KEY)		L702	1-407-701-00	MICRO INDUCTOR 47UH	
S1322	1-554-824-11	SWITCH, PUSH (1 KEY)		L703	1-407-701-00	MICRO INDUCTOR 47UH	
		CRYSTAL		L704	1-407-701-00	MICRO INDUCTOR 47UH	
X1301	1-527-476-00	OSCILLATOR, CERAMIC		L705	1-459-598-11	COIL (WITH CORE) (DRUM TYPE)	
*****				L751	1-407-697-00	MICRO INDUCTOR 22UH	
*A-1330-620-A	C BOARD, COMPLETE	*****				TRANSISTOR	
A1-526-644-71	SOCKET, CRT			Q701	8-729-245-83	TRANSISTOR 2SC2458	
	CONNECTOR			Q702	8-729-326-11	TRANSISTOR 2SC2611	
C1	*1-506-371-00	2P PLUG (L)		Q703	8-729-245-83	TRANSISTOR 2SC2458	
C2	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		Q704	8-729-326-11	TRANSISTOR 2SC2611	
C4	*1-508-765-00	3P PLUG (M)		Q705	8-729-245-83	TRANSISTOR 2SC2458	
	CAPACITOR			Q706	8-729-326-11	TRANSISTOR 2SC2611	
C701	1-102-155-00	CERAMIC 330PF 20% 2KV		Q751	8-729-245-83	TRANSISTOR 2SC2458	
C702	1-129-779-00	FILM 0.022MF 20% 1KV		Q752	8-729-245-83	TRANSISTOR 2SC2458	
C703	1-123-383-00	ELECT 4.7MF 20% 100V		Q753	8-729-245-83	TRANSISTOR 2SC2458	
C704	1-121-759-00	ELECT 4.7MF 250V		Q754	8-729-103-43	TRANSISTOR 2SB734	
C705	1-161-830-00	CERAMIC 0.0047MF 500V		Q755	8-729-177-43	TRANSISTOR 2SD774	
C706	1-129-714-00	FILM 0.01MF 10% 630V		Q756	8-729-177-43	TRANSISTOR 2SD774	
C708	1-102-115-00	CERAMIC 560PF 10% 50V		Q757	8-729-245-83	TRANSISTOR 2SC2458	
C709	1-102-115-00	CERAMIC 560PF 10% 50V				RESISTOR	
C710	1-102-116-00	CERAMIC 680PF 10% 50V		R701	1-202-846-00	SOLID 470K 1/2W	
C711	1-102-125-00	CERAMIC 0.0047MF 10% 50V		R702	1-202-720-00	SOLID 1.2M 10% 1/2W	
C712	1-123-356-00	ELECT 10MF 20% 25V		R703	1-202-844-00	SOLID 330K 1/2W	
C713	1-102-074-00	CERAMIC 0.001MF 10% 50V		R704	1-202-836-00	SOLID 56K 1/2W	
C714	1-102-074-00	CERAMIC 0.001MF 10% 50V		R705	1-202-846-00	SOLID 470K 1/2W	
C715	1-102-074-00	CERAMIC 0.001MF 10% 50V		R707	1-202-842-51	SOLID 220K 1/2W	
C751	1-102-971-00	CERAMIC 82PF 5% 50V		R708	1-202-824-00	SOLID 3.3K 1/2W	
C752	1-106-178-00	MYLAR 0.0018MF 10% 100V		R709	1-202-824-00	SOLID 3.3K 1/2W	
C753	1-106-212-00	MYLAR 0.047MF 10% 100V		R711	1-202-549-00	SOLID 100 10% 1/2W	
C754	1-123-356-00	ELECT 10MF 20% 25V		R712	1-202-543-00	SOLID 56 10% 1/2W	
C755	1-102-980-00	CERAMIC 270PF 5% 50V		R713	1-202-824-00	SOLID 3.3K 1/2W	
C756	1-106-196-00	MYLAR 0.01MF 10% 100V		R714	1-247-107-00	CARBON 100 5% 1/4W	
C758	1-106-196-00	MYLAR 0.01MF 10% 100V		R715	1-247-819-00	CARBON 330 5% 1/6W	
C760	1-106-196-00	MYLAR 0.01MF 10% 100V		R716	1-247-817-00	CARBON 270 5% 1/6W	
C761	1-106-220-00	MYLAR 0.1MF 10% 100V		R717	1-249-421-11	CARBON 2.2K 5% 1/6W	
C762	1-106-196-00	MYLAR 0.01MF 10% 100V		R718	1-247-783-00	CARBON 10 5% 1/6W	
C763	1-123-356-00	ELECT 10MF 20% 50V		R719	1-247-841-00	CARBON 2.7K 5% 1/6W	

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

D

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C1527	1-106-190-00	MYLAR	0.0056MF 10% 100V	C1611	1-106-212-00	MYLAR	0.047MF 10% 100V
C1528	1-106-204-00	MYLAR	0.022MF 10% 100V	C1651	1-123-364-00	ELECT	1000MF 20% 50V
C1529	1-102-030-00	CERAMIC	330PF 10% 500V	C1652	1-102-038-00	CERAMIC	0.001MF 500V
C1530	1-123-357-00	ELECT	22MF 20% 50V	C1653	1-108-429-00	MYLAR	0.047MF 10% 200V
C1531	1-102-038-00	CERAMIC	0.001MF 500V	C1654	1-102-223-00	CERAMIC	0.0047MF 10% 2KV
C1534	1-123-356-00	ELECT	10MF 20% 16V	C1655	1-102-212-00	CERAMIC	820PF 10% 500V
C1535	1-106-190-00	MYLAR	0.0056MF 10% 100V	C1656	1-123-336-00	ELECT	470MF 20% 25V
C1536	1-123-232-00	ELECT	4.7MF 20% 50V	C1657	1-124-347-00	ELECT	100MF 20% 160V
C1538	1-102-117-00	CERAMIC	820PF 10% 50V	C1658	1-123-384-00	ELECT	10MF 20% 100V
C1540	1-123-332-00	ELECT	47MF 20% 25V	C1659	1-106-377-00	MYLAR	0.027MF 10% 200V
C1541	1-102-157-00	CERAMIC	560PF 10% 500V	C1660	1-123-379-00	ELECT	0.47MF 20% 50V
C1542	1-123-332-00	ELECT	47MF 20% 16V	C1661	1-102-244-00	CERAMIC	220PF 10% 500V
C1543	1-102-030-00	CERAMIC	330PF 10% 500V	C1662	1-106-367-00	MYLAR	0.01MF 10% 200V
C1544	1-108-437-00	MYLAR	0.22MF 10% 200V	C1663	1-162-134-51	CERAMIC	470PF 10% 2KV
C1545	1-108-431-00	MYLAR	0.068MF 10% 200V	C1664	1-136-317-11	FILM	0.025MF 3% 2KV
C1546	1-123-931-00	ELECT	3.3MF 20% 160V	C1665	1-162-115-51	CERAMIC	330PF 10% 2KV
C1547	1-123-356-00	ELECT	10MF 20% 50V	C1666	1-106-351-00	MYLAR	0.0022MF 10% 200V
C1548	1-102-212-00	CERAMIC	820PF 10% 500V	C1667	1-136-315-51	FILM	0.047MF 5% 630V
C1549	1-108-429-00	MYLAR	0.047MF 10% 200V	C1668	1-129-704-51	FILM	0.0015MF 10% 630V
C1550	1-108-429-00	MYLAR	0.047MF 10% 200V	C1669	1-123-332-00	ELECT	47MF 20% 25V
C1551	1-124-609-11	ELECT	470MF 10% 50V	C1670	1-136-053-11	FILM	1.2MF 5% 200V
C1552	1-123-380-00	ELECT	1MF 20% 50V	C1671	1-106-172-00	MYLAR	0.001MF 10% 100V
C1553	1-123-357-00	ELECT	22MF 20% 50V	C1672	1-108-431-00	MYLAR	0.068MF 10% 200V
C1555	1-106-172-00	MYLAR	0.001MF 10% 100V	C1673	1-136-179-11	FILM	1.5MF 5% 200V
C1556	1-106-188-00	MYLAR	0.0047MF 10% 100V	C1674	1-136-184-00	MYLAR	0.68MF 10% 250V
C1557	1-136-173-00	FILM	0.47MF 5% 50V	C1675	1-162-115-51	CERAMIC	330PF 10% 2KV
C1558	1-102-212-00	CERAMIC	820PF 10% 500V	C1676	1-108-429-00	MYLAR	0.047MF 10% 200V
C1559	1-101-004-00	CERAMIC	0.01MF 50V	C1677	1-102-233-00	CERAMIC	33PF 10% 500V
C1567	1-102-112-00	CERAMIC	330PF 10% 50V	CONNECTOR			
C1572	1-106-196-00	MYLAR	0.01MF 10% 100V	D1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P	
C1573	1-123-380-00	ELECT	1MF 20% 50V	D2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P	
C1574	1-106-204-00	MYLAR	0.022MF 10% 100V	D3	*1-508-766-00	4P PLUG (M)	
C1575	1-106-196-00	MYLAR	0.01MF 10% 100V	D4	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
C1576	1-106-212-00	MYLAR	0.047MF 10% 100V	D5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
C1577	1-106-212-00	MYLAR	0.047MF 10% 100V	D6	*1-508-766-00	4P PLUG (M)	
C1578	1-123-379-00	ELECT	0.47MF 20% 50V	D8	*1-508-765-00	3P PLUG (M)	
C1579	1-123-330-00	ELECT	22MF 20% 25V	D10	*1-508-765-00	3P PLUG (M)	
C1591	1-123-356-00	ELECT	10MF 20% 25V	D11	*1-508-767-00	5P PLUG	
C1592	1-123-356-00	ELECT	10MF 20% 25V	D12	*1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P	
C1593	1-123-379-00	ELECT	0.47MF 20% 50V	D13	*1-508-767-00	5P PLUG	
C1594	1-106-196-00	MYLAR	0.01MF 10% 100V	D14	*1-508-766-00	4P PLUG (M)	
C1595	1-106-184-00	MYLAR	0.0033MF 10% 100V	D15	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
C1596	1-102-117-00	CERAMIC	820PF 10% 50V	D16	*1-508-765-00	3P PLUG (M)	
C1600	1-106-180-00	MYLAR	0.0022MF 10% 100V	DY1	*1-508-765-00	3P PLUG (M)	
C1601	1-106-208-00	MYLAR	0.033MF 10% 100V	DY2	*1-508-765-00	3P PLUG (M)	
C1602	1-106-184-00	MYLAR	0.0033MF 10% 100V	DY3	*1-508-766-00	4P PLUG (M)	
C1604	1-123-359-00	ELECT	47MF 20% 50V	DIODE			
C1605	1-123-357-00	ELECT	22MF 20% 50V	D605	8-719-911-55	DIODE U05G	
C1606	1-123-332-00	ELECT	47MF 20% 16V	D606	8-719-911-19	DIODE 1SS119	
C1607	1-123-360-00	ELECT	100MF 20% 50V	D607	8-719-911-19	DIODE 1SS119	
C1608	1-129-701-00	FILM	0.01MF 5% 100V	D609	8-719-521-10	DIODE SIVBIO-S	
C1609	1-106-208-00	MYLAR	0.033MF 10% 100V				
C1610	1-123-361-00	ELECT	220MF 20% 50V				

The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

D

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D610	8-719-102-72	DIODE RD5.6E-N3		L1519	1-407-365-00	COIL, CHOKE	
D621	8-719-911-55	DIODE U05G		L1520	1-407-365-00	COIL, CHOKE	
D622	8-719-911-55	DIODE U05G		L1522	1-459-485-11	COIL, CHOKE	
D623	8-719-911-55	DIODE U05G					
D1501	8-719-911-19	DIODE ISS119				TRANSISTOR	
D1502	8-719-190-00	DIODE RD24E-BZ7		Q602	8-729-965-22	TRANSISTOR 2SC1652	
D1503	8-719-100-35	DIODE RD5.6E-B2		Q603	8-729-378-84	TRANSISTOR 2SD788	
D1504	8-719-911-55	DIODE U05G		Q1501	8-729-204-83	TRANSISTOR 2SA1048GR	
D1507	8-719-100-35	DIODE RD5.6E-B2		Q1502	8-729-245-83	TRANSISTOR 2SC2458	
D1508	8-719-101-58	DIODE RD5.6E-L2		Q1503	8-729-245-83	TRANSISTOR 2SC2458	
D1509	8-719-911-19	DIODE ISS119		Q1504	8-729-245-83	TRANSISTOR 2SC2458	
D1510	8-719-911-19	DIODE ISS119		Q1506	8-729-204-83	TRANSISTOR 2SA1048GR	
D1511	8-719-911-19	DIODE ISS119		Q1507	8-729-169-02	TRANSISTOR 2SC2690A	
D1512	8-719-911-19	DIODE ISS119		Q1508	8-729-122-02	TRANSISTOR 2SA1220A	
D1513	8-719-300-76	DIODE RH1A		Q1509	8-729-195-82	TRANSISTOR 2SC2958	
D1514	8-719-200-02	DIODE 10E2		Q1510	8-729-204-83	TRANSISTOR 2SA1048GR	
D1515	8-719-911-55	DIODE U05G		Q1511	8-729-245-83	TRANSISTOR 2SC2458	
D1516	8-719-200-02	DIODE 10E2		Q1513	8-729-245-83	TRANSISTOR 2SC2458	
D1517	8-719-911-19	DIODE ISS119		Q1514	8-729-245-83	TRANSISTOR 2SC2458	
D1651	8-719-300-38	DIODE GU-3A		Q1515	8-729-245-83	TRANSISTOR 2SC2458	
D1652	8-719-300-91	DIODE EM1ZS		Q1516	8-729-245-83	TRANSISTOR 2SC2458	
D1653	8-719-300-76	DIODE RH1A		Q1517	8-729-245-83	TRANSISTOR 2SC2458	
D1654	8-719-901-19	DIODE V11N		Q1521	8-729-122-02	TRANSISTOR 2SA1220A	
D1655	8-719-305-15	DIODE GH3F		Q1522	8-729-169-02	TRANSISTOR 2SC2690A	
D1656	8-719-305-15	DIODE GH3F		Q1523	8-729-378-84	TRANSISTOR 2SD788	
D1657	8-719-900-26	DIODE ERD29-08J		Q1524	8-729-901-72	TRANSISTOR 2SC3317	
D1658	8-719-911-55	DIODE U05G			4-342-013-00	SPACER, MICA, Q1524	
D1659	8-719-911-55	DIODE U05G		Q1525	8-729-245-83	TRANSISTOR 2SC2458	
D1660	8-719-300-65	DIODE ES1F		Q1527	8-729-175-22	TRANSISTOR 2SC2752	
				Q1528	8-729-300-90	TRANSISTOR 2SD1497-06	
						RESISTOR	
				R602	1-247-717-11	CARBON 2.2K 5% 1/4W	
				R603	1-247-717-11	CARBON 2.2K 5% 1/4W	
				R604	1-213-135-61	METAL OXIDE 220 5% 1W	
				R606	1-247-040-11	CARBON 1K 5% 1/8W	
				R607	1-247-855-00	CARBON 10K 5% 1/6W	
				R608	1-247-131-00	CARBON 1K 5% 1/4W	
				R620	1-202-723-51	SOLID 2.2M 10% 1/2W	
				R621	1-202-723-51	SOLID 2.2M 10% 1/2W	
				R622	1-205-768-11	CEMENTED 1.2 5% 15W	
				R623	1-246-525-00	CARBON 150K 5% 1/4W	
				R624	1-246-525-00	CARBON 150K 5% 1/4W	
				R1500	1-247-831-00	CARBON 1K 5% 1/6W	
				R1501	1-247-155-00	CARBON 10K 5% 1/4W	
				R1502	1-206-700-00	METAL OXIDE 33K 5% 2W	
				R1503	1-247-815-00	CARBON 220 5% 1/6W	
				R1504	1-247-819-00	CARBON 330 5% 1/6W	
				R1505	1-247-845-00	CARBON 3.9K 5% 1/6W	
				R1506	1-247-107-00	CARBON 100 5% 1/4W	
				R1507	1-246-536-00	CARBON 430K 5% 1/4W	
				R1508	1-247-163-00	CARBON 22K 5% 1/4W	
				R1509	1-247-863-00	CARBON 22K 5% 1/6W	

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

D

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R1510	1-247-877-00	CARBON	82K 5% 1/6W	R1566	1-247-034-00	CARBON	220 5% 1/8W F
R1511	1-247-868-00	CARBON	36K 5% 1/6W	R1567	1-213-141-00	METAL OXIDE	680 5% 1W F
R1512	1-247-819-00	CARBON	330 5% 1/6W	R1568	1-247-797-00	CARBON	39 5% 1/8W F
R1513	1-247-177-00	CARBON	82K 5% 1/4W	R1569	1-213-148-00	METAL OXIDE	2.7K 5% 1W F
R1514	1-247-143-00	CARBON	3.3K 5% 1/4W	R1570	1-247-835-00	CARBON	1.5K 5% 1/6W
R1515	1-247-857-00	CARBON	12K 5% 1/6W	R1571	1-247-167-00	CARBON	33K 5% 1/4W
R1516	1-247-867-00	CARBON	33K 5% 1/6W	R1572	1-247-873-00	CARBON	56K 5% 1/6W
R1517	1-247-827-00	CARBON	680 5% 1/6W	R1573	1-247-855-00	CARBON	10K 5% 1/6W
R1518	1-247-827-00	CARBON	680 5% 1/6W	R1574	1-247-843-00	CARBON	3.3K 5% 1/6W
R1519	1-247-851-00	CARBON	6.8K 5% 1/6W	R1575	1-247-835-00	CARBON	1.5K 5% 1/6W
R1520	1-247-135-00	CARBON	1.5K 5% 1/4W	R1576	1-247-815-00	CARBON	220 5% 1/6W
R1521	1-247-177-00	CARBON	82K 5% 1/4W	R1577	1-247-131-00	CARBON	1K 5% 1/4W
R1522	1-215-463-00	METAL	56K 1% 1/6W	R1578	1-215-411-00	METAL	390 1% 1/6W
R1523	1-247-857-00	CARBON	12K 5% 1/6W	R1580	1-247-823-00	CARBON	470 5% 1/6W
R1524	1-247-158-00	CARBON	13K 5% 1/4W	R1581	1-247-837-00	CARBON	1.8K 5% 1/6W
R1525	1-247-845-00	CARBON	3.9K 5% 1/6W	R1582	1-246-485-25	CARBON	3.3K 5% 1/4W
R1526	1-247-867-00	CARBON	33K 5% 1/6W	R1583	1-212-364-00	METAL OXIDE	2.2 5% 1W F
R1527	1-247-155-00	CARBON	10K 5% 1/4W	R1584	1-213-147-00	METAL OXIDE	2.2K 5% 1W F
R1528	1-247-839-00	CARBON	2.2K 5% 1/6W	R1585	1-247-171-00	CARBON	47K 5% 1/4W
R1529	1-214-753-00	METAL	10K 1% 1/4W	R1586	1-206-463-00	METAL OXIDE	10 5% 2W F
R1530	1-214-750-00	METAL	7.5K 1% 1/4W	R1587	1-206-463-00	METAL OXIDE	10 5% 2W F
R1531	1-247-855-00	CARBON	10K 5% 1/6W	R1588	1-247-161-00	CARBON	18K 5% 1/4W
R1533	1-206-692-00	METAL OXIDE	15K 5% 2W F	R1589	1-247-855-00	CARBON	10K 5% 1/6W
R1534	1-247-855-00	METAL	15K 5% 1/4W	R1590	1-249-421-11	CARBON	2.2K 5% 1/6W
R1535	1-214-783-00	METAL	180K 1% 1/4W	R1591	1-247-849-00	CARBON	5.6K 5% 1/6W
R1537	1-214-783-00	METAL	180K 1% 1/4W	R1592	1-247-843-00	CARBON	3.3K 5% 1/6W
R1538	1-214-753-00	METAL	10K 1% 1/4W	R1593	1-247-831-00	CARBON	1K 5% 1/6W
R1539	1-247-177-00	CARBON	82K 5% 1/4W	R1594	1-247-857-00	CARBON	12K 5% 1/6W
R1540	1-246-545-00	CARBON	1M 5% 1/4W	R1595	1-247-875-00	CARBON	68K 5% 1/6W
R1541	1-202-723-00	SOLID	2.2M 10% 1/2W	R1596	1-247-879-00	CARBON	100K 5% 1/6W
R1543	1-214-750-00	METAL	7.5K 1% 1/4W	R1597	1-247-847-00	CARBON	4.7K 5% 1/6W
R1544	1-214-779-00	METAL	120K 1% 1/4W	R1598	1-247-875-00	CARBON	68K 5% 1/6W
R1545	1-214-781-00	METAL	150K 1% 1/4W	R1599	1-249-421-11	CARBON	2.2K 5% 1/6W
R1546	1-247-831-00	CARBON	1K 5% 1/6W	R1600	1-247-855-00	CARBON	10K 5% 1/6W
R1547	1-214-766-00	METAL	36K 1% 1/4W	R1601	1-247-867-00	CARBON	33K 5% 1/6W
R1548	1-247-119-00	CARBON	330 5% 1/4W	R1602	1-247-717-11	CARBON	2.2K 5% 1/4W
R1549	1-247-833-00	CARBON	1.2K 5% 1/6W	R1603	1-247-167-00	CARBON	33K 5% 1/4W
R1550	1-213-161-00	METAL OXIDE	33K 5% 1W F	R1604	1-247-855-00	CARBON	10K 5% 1/6W
R1551	1-247-131-00	CARBON	1K 5% 1/4W	R1605	1-247-871-00	CARBON	47K 5% 1/6W
R1552	1-247-109-00	CARBON	120 5% 1/4W	R1606	1-247-871-00	CARBON	47K 5% 1/6W
R1553	1-213-155-00	METAL OXIDE	10K 5% 1W F	R1607	1-247-833-00	CARBON	1.2K 5% 1/6W
R1554	1-247-807-00	CARBON	100 5% 1/6W	R1608	1-247-875-00	CARBON	68K 5% 1/6W
R1555	1-247-879-00	CARBON	100K 5% 1/6W	R1609	1-247-875-00	CARBON	68K 5% 1/6W
R1556	1-247-879-00	CARBON	100K 5% 1/4W	R1610	1-247-855-00	CARBON	10K 5% 1/6W
R1558	1-247-903-00	CARBON	1M 5% 1/6W	R1611	1-247-831-00	CARBON	1K 5% 1/6W
R1559	1-247-903-00	CARBON	1M 5% 1/6W	R1612	1-247-107-00	CARBON	100 5% 1/4W
R1560	1-247-033-11	CARBON	100 5% 1/8W F	R1613	1-247-875-00	CARBON	68K 5% 1/6W
R1561	1-246-993-11	CARBON	470 5% 1/8W F	R1614	1-247-855-00	CARBON	10K 5% 1/6W
R1562	1-213-145-00	METAL OXIDE	1.5K 5% 1W F	R1616	1-247-143-00	CARBON	3.3K 5% 1/4W
R1563	1-212-361-00	METAL OXIDE	1.2 5% 1W F	R1617	1-247-863-00	CARBON	22K 5% 1/6W
R1564	1-212-361-00	METAL OXIDE	1.2 5% 1W F	R1618	1-247-847-00	CARBON	4.7K 5% 1/6W
R1565	1-246-984-11	CARBON	22 5% 1/8W F	R1619	1-247-863-00	CARBON	22K 5% 1/6W

• The components identified by **■** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark **△** are critical for safety. Replace only with part number specified.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

U

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C832	1-123-622-00	ELECT 22MF	20% 16V	Q817	8-729-245-83	TRANSISTOR 2SC2458	
C834	1-123-318-00	ELECT 33MF	20% 16V	Q818	8-729-245-83	TRANSISTOR 2SC2458	
C835	1-123-820-00	ELECT 33MF	20% 16V	Q819	8-729-245-83	TRANSISTOR 2SC2458	
C836	1-123-820-00	ELECT 33MF	20% 16V	Q820	8-729-245-83	TRANSISTOR 2SC2458	
C837	1-123-318-00	ELECT 33MF	20% 16V	Q821	8-729-245-83	TRANSISTOR 2SC2458	
C839	1-123-380-00	ELECT 1MF	20% 50V	Q822	8-729-204-83	TRANSISTOR 2SA1048GR	
C842	1-123-321-00	ELECT 220MF	20% 16V	Q823	8-729-204-83	TRANSISTOR 2SA1048GR	
C843	1-123-318-00	ELECT 33MF	20% 16V	Q824	8-729-245-83	TRANSISTOR 2SC2458	
C845	1-123-356-00	ELECT 10MF	20% 16V	Q825	8-729-204-83	TRANSISTOR 2SA1048GR	
C846	1-119-358-00	ELECT 22MF	16V	Q826	8-729-245-83	TRANSISTOR 2SC2458	
C847	1-102-125-00	CERAMIC 0.0047MF	10% 50V	Q827	8-729-245-83	TRANSISTOR 2SC2458	
C851	1-123-333-00	ELECT 100MF	20% 16V	Q828	8-729-245-83	TRANSISTOR 2SC2458	
C852	1-123-318-00	ELECT 33MF	20% 16V	Q829	8-729-204-83	TRANSISTOR 2SA1048GR	
C853	1-102-125-00	CERAMIC 0.0047MF	10% 50V	Q830	8-729-204-83	TRANSISTOR 2SA1048GR	
C880	1-123-307-00	ELECT 100MF	20% 6.3V	Q831	8-729-204-83	TRANSISTOR 2SA1048GR	
DIODE				Q832	8-729-204-83	TRANSISTOR 2SA1048GR	
D801	8-719-102-73	DIODE RD6.2E-N1		Q833	8-729-245-83	TRANSISTOR 2SC2458	
D802	8-719-102-73	DIODE RD6.2E-N1		Q834	8-729-245-83	TRANSISTOR 2SC2458	
D803	8-719-102-73	DIODE RD6.2E-N1		Q835	8-729-245-83	TRANSISTOR 2SC2458	
D806	8-719-102-73	DIODE RD6.2E-N1		RESISTOR			
D807	8-719-911-19	DIODE 1SS119		R801	1-247-123-00	CARBON 470 5%	1/4W
D808	8-719-911-19	DIODE 1SS119		R802	1-247-873-00	CARBON 56K 5%	1/6W
D809	8-719-911-19	DIODE 1SS119		R803	1-247-873-00	CARBON 56K 5%	1/6W
D814	8-719-911-19	DIODE 1SS119		R804	1-247-115-00	CARBON 220 5%	1/4W
D815	8-719-911-19	DIODE 1SS119		R805	1-247-879-00	CARBON 100K 5%	1/6W
D816	8-719-911-19	DIODE 1SS119		R806	1-247-873-00	CARBON 56K 5%	1/6W
D817	8-719-911-19	DIODE 1SS119		R807	1-247-873-00	CARBON 56K 5%	1/6W
D818	8-719-102-73	DIODE RD6.2E-N1		R808	1-247-179-00	CARBON 100K 5%	1/4W
IC				R809	1-246-543-00	CARBON 820K 5%	1/4W
IC801	8-759-240-52	IC TC4052BP		R810	1-247-831-00	CARBON 1K 5%	1/6W
IC802	8-759-240-52	IC TC4052BP		R811	1-247-115-00	CARBON 220 5%	1/4W
IC803	8-759-900-09	IC SN74LS09N		R812	1-247-847-00	CARBON 4.7K 5%	1/6W
IC804	8-759-140-53	IC UPD4053BC		R813	1-247-869-00	CARBON 39K 5%	1/6W
IC805	8-759-240-52	IC TC4052BP		R814	1-247-847-00	CARBON 4.7K 5%	1/6W
IC806	8-759-900-05	IC SN74LS05N		R815	1-247-855-00	CARBON 10K 5%	1/6W
IC807	8-759-145-58	IC UPC4558C		R816	1-247-855-00	CARBON 10K 5%	1/6W
COIL				R817	1-247-123-00	CARBON 470 5%	1/4W
L801	1-408-235-00	MICRO INDUCTOR 2.2MMH		R818	1-247-131-00	CARBON 1K 5%	1/4W
L802	1-408-417-00	MICRO INDUCTOR 47UH		R819	1-247-131-00	CARBON 1K 5%	1/4W
TRANSISTOR				R820	1-247-901-00	CARBON 820K 5%	1/6W
Q802	8-729-204-83	TRANSISTOR 2SA1048GR		R821	1-247-869-00	CARBON 39K 5%	1/6W
Q803	8-729-204-83	TRANSISTOR 2SA1048GR		R822	1-247-115-00	CARBON 220 5%	1/4W
Q804	8-729-204-83	TRANSISTOR 2SA1048GR		R823	1-247-107-00	CARBON 100 5%	1/4W
Q805	8-729-245-83	TRANSISTOR 2SC2458		R824	1-247-117-00	CARBON 270 5%	1/4W
Q806	8-729-245-83	TRANSISTOR 2SC2458		R825	1-247-815-00	CARBON 220 5%	1/6W
Q807	8-729-245-83	TRANSISTOR 2SC2458		R827	1-247-893-00	CARBON 390K 5%	1/6W
Q812	8-729-245-83	TRANSISTOR 2SC2458		R828	1-247-893-00	CARBON 390K 5%	1/6W
Q813	8-729-245-83	TRANSISTOR 2SC2458		R829	1-246-507-00	CARBON 27K 5%	1/4W
Q814	8-729-245-83	TRANSISTOR 2SC2458		R830	1-246-507-00	CARBON 27K 5%	1/4W
Q815	8-729-245-83	TRANSISTOR 2SC2458		R831	1-246-507-00	CARBON 27K 5%	1/4W
Q816	8-729-245-83	TRANSISTOR 2SC2458		R832	1-246-507-00	CARBON 27K 5%	1/4W
				R833	1-246-507-00	CARBON 27K 5%	1/4W
				R834	1-247-865-00	CARBON 27K 5%	1/6W

U

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R835	1-247-893-00	CARBON	390K 5% 1/6W	R895	1-247-155-00	CARBON	10K 5% 1/4W
R837	1-247-129-00	CARBON	820 5% 1/4W	R896	1-247-155-00	CARBON	10K 5% 1/4W
R838	1-247-895-00	CARBON	470K 5% 1/6W	R897	1-247-855-00	CARBON	10K 5% 1/6W
R839	1-246-537-00	CARBON	470K 5% 1/4W	R898	1-247-855-00	CARBON	10K 5% 1/6W
R840	1-247-104-00	CARBON	75 5% 1/4W	R899	1-247-115-00	CARBON	220 5% 1/4W
				R900	1-247-107-00	CARBON	100 5% 1/4W
R841	1-247-149-00	CARBON	5.6K 5% 1/4W	R901	1-247-131-00	CARBON	1K 5% 1/4W
R842	1-247-149-00	CARBON	5.6K 5% 1/4W				
R843	1-247-155-00	CARBON	10K 5% 1/4W	R902	1-247-131-00	CARBON	1K 5% 1/4W
R844	1-247-155-00	CARBON	10K 5% 1/4W	R903	1-247-105-00	CARBON	82 5% 1/4W
R845	1-247-895-00	CARBON	470K 5% 1/6W	R904	1-247-105-00	CARBON	82 5% 1/4W
				R905	1-247-105-00	CARBON	82 5% 1/4W
R846	1-247-104-00	CARBON	75 5% 1/4W	R906	1-247-115-00	CARBON	220 5% 1/4W
R847	1-246-507-00	CARBON	27K 5% 1/4W				
R848	1-246-507-00	CARBON	27K 5% 1/4W	R908	1-247-861-00	CARBON	18K 5% 1/6W
R849	1-247-104-00	CARBON	1K 5% 1/4W	R909	1-247-867-00	CARBON	33K 5% 1/6W
R850	1-247-131-00	CARBON	1K 5% 1/4W	R910	1-247-861-00	CARBON	18K 5% 1/6W
				R911	1-247-879-00	CARBON	100K 5% 1/6W
R851	1-247-155-00	CARBON	10K 5% 1/4W	R912	1-247-879-00	CARBON	100K 5% 1/6W
R852	1-247-863-00	CARBON	22K 5% 1/6W				
R853	1-246-463-00	CARBON	390 5% 1/4W	R913	1-247-847-00	CARBON	4.7K 5% 1/6W
R854	1-247-104-00	CARBON	75 5% 1/4W	R914	1-247-847-00	CARBON	4.7K 5% 1/6W
R855	1-247-147-00	CARBON	4.7K 5% 1/4W	R915	1-247-823-00	CARBON	470 5% 1/6W
				R916	1-247-823-00	CARBON	470 5% 1/6W
R856	1-247-131-00	CARBON	1K 5% 1/4W	R917	1-247-827-00	CARBON	680 5% 1/6W
R857	1-247-161-00	CARBON	18K 5% 1/4W				
R858	1-247-877-00	CARBON	82K 5% 1/6W	R918	1-247-835-00	CARBON	1.5K 5% 1/6W
R859	1-247-831-00	CARBON	1K 5% 1/6W	R919	1-247-855-00	CARBON	10K 5% 1/6W
R860	1-247-115-00	CARBON	220 5% 1/4W	R921	1-247-831-00	CARBON	1K 5% 1/6W
				R922	1-247-131-00	CARBON	1K 5% 1/4W
R861	1-247-147-00	CARBON	4.7K 5% 1/4W	R923	1-247-871-00	CARBON	47K 5% 1/6W
R862	1-247-831-00	CARBON	1K 5% 1/6W				
R863	1-247-835-00	CARBON	1.5K 5% 1/6W	R924	1-247-871-00	CARBON	47K 5% 1/6W
R864	1-247-115-00	CARBON	220 5% 1/4W	R925	1-247-893-00	CARBON	390K 5% 1/6W
R865	1-247-115-00	CARBON	220 5% 1/4W	R926	1-247-855-00	CARBON	10K 5% 1/6W
				R928	1-247-831-00	CARBON	1K 5% 1/6W
R866	1-247-835-00	CARBON	1.5K 5% 1/6W	R929	1-247-131-00	CARBON	1K 5% 1/4W
R867	1-247-835-00	CARBON	1.5K 5% 1/6W				
R868	1-247-831-00	CARBON	1K 5% 1/6W	R930	1-247-131-00	CARBON	1K 5% 1/4W
R869	1-247-115-00	CARBON	220 5% 1/4W	R931	1-247-131-00	CARBON	1K 5% 1/4W
R870	1-247-115-00	CARBON	220 5% 1/4W	R932	1-247-879-00	CARBON	100K 5% 1/6W
				R934	1-247-879-00	CARBON	100K 5% 1/6W
R872	1-247-115-00	CARBON	220 5% 1/4W	R938	1-247-143-00	CARBON	3.3K 5% 1/4W
R873	1-247-115-00	CARBON	220 5% 1/4W				
R874	1-247-823-00	CARBON	470 5% 1/6W	R939	1-247-837-00	CARBON	1.8K 5% 1/6W
R875	1-249-459-11	CARBON	12K 5% 1/4W	R940	1-247-879-00	CARBON	100K 5% 1/6W
R876	1-247-829-00	CARBON	820 5% 1/6W	R941	1-247-131-00	CARBON	1K 5% 1/4W
				R942	1-247-104-00	CARBON	75 5% 1/4W
R879	1-247-823-00	CARBON	470 5% 1/6W	R943	1-247-104-00	CARBON	75 5% 1/4W
R881	1-247-887-00	CARBON	220K 5% 1/6W				
R882	1-247-887-00	CARBON	220K 5% 1/6W	R944	1-247-104-00	CARBON	75 5% 1/4W
R883	1-247-855-00	CARBON	10K 5% 1/6W	R947	1-247-131-00	CARBON	1K 5% 1/4W
R884	1-247-855-00	CARBON	10K 5% 1/6W	R949	1-247-131-00	CARBON	1K 5% 1/4W
				R950	1-247-131-00	CARBON	1K 5% 1/4W
R885	1-247-863-00	CARBON	22K 5% 1/6W	R951	1-246-463-25	CARBON	390 5% 1/4W
R886	1-247-163-00	CARBON	22K 5% 1/4W				
R887	1-247-863-00	CARBON	22K 5% 1/6W	R952	1-246-463-25	CARBON	390 5% 1/4W
R888	1-247-863-00	CARBON	22K 5% 1/6W	R955	1-246-535-00	CARBON	390K 5% 1/4W
R889	1-247-831-00	CARBON	1K 5% 1/6W	R956	1-247-143-00	CARBON	3.3K 5% 1/4W
				R957	1-247-815-00	CARBON	220 5% 1/6W
R891	1-247-103-00	CARBON	68 5% 1/4W	R958	1-247-143-00	CARBON	3.3K 5% 1/4W
R892	1-247-107-00	CARBON	100 5% 1/4W				
R893	1-247-115-00	CARBON	220 5% 1/4W	R959	1-247-815-00	CARBON	220 5% 1/6W
R894	1-247-123-00	CARBON	470 5% 1/4W				



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
<u>VARIABLE RESISTOR</u>				C1124	1-123-380-00	ELECT 1MF	20% 50V
RV801	1-228-848-00	RES, VAR, CARBON 10K		C1125	1-123-332-00	ELECT 47MF	20% 16V
RV802	1-228-490-00	RES, VAR, CARBON 10K		C1126	1-123-380-00	ELECT 1MF	20% 50V
<u>SWITCH</u>				C1127	1-123-356-00	ELECT 10MF	20% 16V
S801	1-553-651-00	SWITCH, SLIDE		C1128	1-106-176-00	MYLAR 0.0015MF	10% 100V
S802	1-553-651-00	SWITCH, SLIDE		C1129	1-106-176-00	MYLAR 0.0015MF	10% 100V
<u>CONNECTOR</u>				C1130	1-123-380-00	ELECT 1MF	20% 50V
U1	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		C1131	1-131-345-00	TANTALUM 0.47MF	10% 35V
U2	*1-564-444-11	PLUG, CONNECTOR (2.5MM) 8P		C1132	1-123-356-00	ELECT 10MF	20% 16V
U3	*1-564-452-41	PLUG, CONNECTOR (2.5MM) 4P		C1133	1-123-318-00	ELECT 33MF	20% 16V
U4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C1134	1-130-301-00	FILM 0.015MF	5% 100V
U5	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		C1135	1-123-323-00	ELECT 470MF	20% 16V
U6	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P		C1136	1-123-332-00	ELECT 47MF	20% 16V
U7	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C1137	1-123-332-00	ELECT 47MF	20% 16V
U8	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		C1148	1-123-308-00	ELECT 220MF	20% 10V
U9	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P		C1149	1-123-381-00	ELECT 2.2MF	20% 50V
U10	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C1150	1-123-381-00	ELECT 2.2MF	20% 50V
U11	*1-564-453-11	PLUG, CONNECTOR (2.5MM) 5P		C1151	1-123-369-00	ELECT 4.7MF	20% 25V
U13	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		C1152	1-123-369-00	ELECT 4.7MF	20% 25V
*****				C1153	1-102-074-00	CERAMIC 0.001MF	10% 50V
*A-1386-014-A X BOARD, COMPLETE				C1154	1-102-074-00	CERAMIC 0.001MF	10% 50V
*****				C1155	1-102-074-00	CERAMIC 0.001MF	10% 50V
4-309-378-00 SPACER				C1156	1-102-074-00	CERAMIC 0.001MF	10% 50V
<u>CAPACITOR</u>				C1157	1-123-323-00	ELECT 470MF	20% 16V
C1101	1-123-318-00	ELECT 33MF	20% 16V	C1160	1-106-212-00	MYLAR 0.047MF	10% 100V
C1102	1-123-356-00	ELECT 10MF	20% 16V	C1161	1-106-172-00	MYLAR 0.001MF	10% 100V
C1103	1-123-318-00	ELECT 33MF	20% 16V	C1162	1-106-172-00	MYLAR 0.001MF	10% 100V
C1104	1-123-356-00	ELECT 10MF	20% 16V	C1163	1-106-212-00	MYLAR 0.047MF	10% 100V
C1105	1-102-074-00	CERAMIC 0.001MF	10% 50V	C1164	1-123-356-00	ELECT 10MF	20% 16V
C1106	1-123-356-00	ELECT 10MF	20% 16V	C1165	1-123-380-00	ELECT 1MF	20% 50V
C1107	1-123-356-00	ELECT 10MF	20% 16V	C1166	1-102-824-00	CERAMIC 470PF	5% 50V
C1108	1-102-074-00	CERAMIC 0.001MF	10% 50V	C1167	1-123-380-00	ELECT 1MF	20% 50V
C1109	1-106-196-00	MYLAR 0.01MF	10% 100V	C1168	1-102-824-00	CERAMIC 470PF	5% 50V
C1110	1-123-380-00	ELECT 1MF	20% 50V	C1169	1-123-356-00	ELECT 10MF	20% 16V
C1111	1-106-212-00	MYLAR 0.047MF	10% 100V	C1170	1-123-360-00	ELECT 100MF	20% 50V
C1112	1-106-196-00	MYLAR 0.01MF	10% 100V	C1171	1-124-607-11	ELECT 2200MF	20% 50V
C1113	1-123-382-00	ELECT 3.3MF	20% 50V	C1172	1-123-346-00	ELECT 220MF	20% 35V
C1114	1-123-380-00	ELECT 1MF	20% 50V	C1174	1-106-208-00	MYLAR 0.033MF	10% 100V
C1115	1-130-275-00	FILM 0.0012MF	5% 100V	C1175	1-123-364-00	ELECT 1000MF	20% 50V
C1116	1-123-380-00	ELECT 1MF	20% 50V	C1176	1-123-359-00	ELECT 47MF	20% 35V
C1117	1-123-380-00	ELECT 1MF	20% 50V	C1177	1-106-212-00	MYLAR 0.047MF	10% 100V
C1118	1-123-321-00	ELECT 220MF	20% 16V	C1178	1-106-212-00	MYLAR 0.047MF	10% 100V
C1119	1-106-172-00	MYLAR 0.001MF	10% 100V	C1179	1-123-359-00	ELECT 47MF	20% 35V
C1120	1-106-188-00	MYLAR 0.0047MF	10% 100V	C1180	1-123-364-00	ELECT 1000MF	20% 50V
C1121	1-102-112-00	CERAMIC 330PF	10% 50V	C1181	1-106-208-00	MYLAR 0.033MF	10% 100V
C1122	1-123-369-00	ELECT 4.7MF	20% 25V	C1183	1-123-346-00	ELECT 220MF	20% 35V
C1123	1-123-380-00	ELECT 1MF	20% 50V	C1184	1-123-356-00	ELECT 10MF	20% 16V
				C1185	1-123-380-00	ELECT 1MF	20% 50V
				C1186	1-123-380-00	ELECT 1MF	20% 50V
				C1187	1-123-380-00	ELECT 1MF	20% 50V
				C1188	1-123-380-00	ELECT 1MF	20% 50V
				C1189	1-102-074-00	CERAMIC 0.001MF	10% 50V
				C1190	1-123-333-00	ELECT 100MF	20% 16V

-37-

X

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R1134	1-247-855-00	CARBON	10K 5% 1/6W	R1190	1-247-811-00	CARBON	150 5% 1/6W
R1135	1-247-843-00	CARBON	3.3K 5% 1/6W	R1191	1-247-823-00	CARBON	470 5% 1/6W
R1136	1-247-803-00	CARBON	68 5% 1/6W	R1192	1-247-855-00	CARBON	10K 5% 1/6W
R1137	1-247-835-00	CARBON	1.5K 5% 1/6W	R1193	1-247-855-00	CARBON	10K 5% 1/6W
R1138	1-247-819-00	CARBON	330 5% 1/6W	R1194	1-247-855-00	CARBON	10K 5% 1/6W
R1139	1-247-861-00	CARBON	18K 5% 1/6W	R1195	1-247-879-00	CARBON	100K 5% 1/6W
R1140	1-247-851-00	CARBON	6.8K 5% 1/6W	R1196	1-247-879-00	CARBON	100K 5% 1/6W
R1141	1-247-871-00	CARBON	47K 5% 1/6W	R1197	1-247-855-00	CARBON	10K 5% 1/6W
R1142	1-247-871-00	CARBON	47K 5% 1/6W	R1199	1-247-879-00	CARBON	100K 5% 1/6W
R1143	1-247-871-00	CARBON	47K 5% 1/6W	R1200	1-247-879-00	CARBON	100K 5% 1/6W
R1144	1-247-843-00	CARBON	3.3K 5% 1/6W	R1203	1-247-831-00	CARBON	1K 5% 1/6W
R1145	1-247-143-00	CARBON	3.3K 5% 1/4W	R1204	1-247-831-00	CARBON	1K 5% 1/6W
R1146	1-247-851-00	CARBON	6.8K 5% 1/6W	R1205	1-247-831-00	CARBON	1K 5% 1/6W
R1147	1-247-861-00	CARBON	18K 5% 1/6W	R1206	1-247-831-00	CARBON	1K 5% 1/6W
R1148	1-247-847-00	CARBON	4.7K 5% 1/6W	R1207	1-247-831-00	CARBON	1K 5% 1/6W
R1149	1-247-863-00	CARBON	22K 5% 1/6W	R1208	1-247-865-00	CARBON	27K 5% 1/6W
R1150	1-215-486-00	METAL	510K 1% 1/6W	R1210	1-247-847-00	CARBON	4.7K 5% 1/6W
R1151	1-214-785-00	METAL	220K 1% 1/4W	R1211	1-247-879-00	CARBON	100K 5% 1/6W
R1152	1-215-469-00	METAL	100K 1% 1/6W	R1212	1-247-847-00	CARBON	4.7K 5% 1/6W
R1153	1-214-777-00	METAL	100K 1% 1/4W	R1213	1-247-831-00	CARBON	1K 5% 1/6W
R1154	1-214-785-00	METAL	220K 1% 1/4W	R1214	1-247-879-00	CARBON	100K 5% 1/6W
R1155	1-215-493-00	METAL	1M 1% 1/6W	R1215	1-247-881-00	CARBON	120K 5% 1/6W
R1156	1-215-493-00	METAL	1M 1% 1/6W	R1216	1-247-893-00	CARBON	390K 5% 1/6W
R1157	1-246-529-00	CARBON	220K 5% 1/4W	R1217	1-211-427-11	CARBON	100 5% 1/8W F
R1158	1-247-879-00	CARBON	100K 5% 1/6W	R1218	1-247-825-00	CARBON	560 5% 1/6W
R1159	1-247-886-00	CARBON	200K 5% 1/6W	R1220	1-247-859-00	CARBON	15K 5% 1/6W
R1160	1-247-115-00	CARBON	220 5% 1/4W	R1221	1-247-861-00	CARBON	18K 5% 1/6W
R1161	1-247-863-00	CARBON	22K 5% 1/6W	R1222	1-211-401-11	CARBON	4.7 5% 1/8W F
R1162	1-247-847-00	CARBON	4.7K 5% 1/6W	R1223	1-211-401-00	CARBON	4.7 5% 1/8W F
R1163	1-247-851-00	CARBON	6.8K 5% 1/6W	R1224	1-247-831-00	CARBON	1K 5% 1/6W
R1164	1-247-861-00	CARBON	18K 5% 1/6W	R1225	1-247-161-00	CARBON	18K 5% 1/4W
R1165	1-247-848-00	CARBON	5.1K 5% 1/6W	R1226	1-247-859-00	CARBON	15K 5% 1/6W
R1166	1-247-835-00	CARBON	1.5K 5% 1/6W	R1227	1-247-831-00	CARBON	1K 5% 1/6W
R1167	1-247-833-00	CARBON	1.2K 5% 1/6W	R1229	1-247-825-00	CARBON	560 5% 1/6W
R1168	1-247-847-00	CARBON	4.7K 5% 1/6W	R1230	1-247-879-00	CARBON	100K 5% 1/6W
R1170	1-247-849-00	CARBON	5.6K 5% 1/6W	R1231	1-247-831-00	CARBON	1K 5% 1/6W
R1171	1-247-026-11	CARBON	5.6 5% 1/8W F	R1232	1-247-831-00	CARBON	1K 5% 1/6W
R1172	1-247-823-00	CARBON	470 5% 1/6W	R1233	1-247-831-00	CARBON	1K 5% 1/6W
R1173	1-247-841-00	CARBON	2.7K 5% 1/6W	R1234	1-247-831-00	CARBON	1K 5% 1/6W
R1174	1-247-829-00	CARBON	820 5% 1/6W	R1237	1-247-879-00	CARBON	100K 5% 1/6W
R1175	1-249-421-11	CARBON	2.2K 5% 1/6W	R1241	1-247-855-00	CARBON	10K 5% 1/6W
R1176	1-247-815-00	CARBON	220 5% 1/6W	R1243	1-247-862-00	CARBON	20K 5% 1/6W
R1177	1-247-863-00	CARBON	22K 5% 1/6W	R1245	1-247-867-00	CARBON	33K 5% 1/6W
R1180	1-247-855-00	CARBON	10K 5% 1/6W	R1246	1-247-843-00	CARBON	3.3K 5% 1/6W
R1181	1-247-847-00	CARBON	4.7K 5% 1/6W	R1247	1-247-885-00	CARBON	180K 5% 1/6W
R1182	1-247-838-00	CARBON	2K 5% 1/6W	R1248	1-247-885-00	CARBON	180K 5% 1/6W
R1183	1-247-838-00	CARBON	2K 5% 1/6W	R1249	1-247-847-00	CARBON	4.7K 5% 1/6W
R1184	1-247-829-00	CARBON	820 5% 1/6W	R1250	1-247-847-00	CARBON	4.7K 5% 1/6W
R1185	1-247-829-00	CARBON	820 5% 1/6W	R1251	1-247-863-00	CARBON	22K 5% 1/6W
R1186	1-247-838-00	CARBON	2K 5% 1/6W	R1252	1-247-843-00	CARBON	3.3K 5% 1/6W
R1187	1-247-879-00	CARBON	100K 5% 1/6W	R1253	1-247-865-00	CARBON	27K 5% 1/6W
R1188	1-247-855-00	CARBON	10K 5% 1/6W	R1254	1-247-847-00	CARBON	4.7K 5% 1/6W
R1189	1-247-855-00	CARBON	10K 5% 1/6W	R1255	1-247-847-00	CARBON	4.7K 5% 1/6W

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

X	XA	Z
---	----	---

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R1256	1-247-843-00	CARBON	3.3K 5% 1/6W			<u>DIODE</u>	
R1257	1-247-811-00	CARBON	150 5% 1/6W	D1701	8-719-911-19	DIODE 1SS119	
R1258	1-247-843-00	CARBON	3.3K 5% 1/6W			<u>COIL</u>	
R1259	1-247-869-00	CARBON	39K 5% 1/6W	L1701	1-408-242-00	MICRO INDUCTOR 10MMH	
R1260	1-247-893-00	CARBON	390K 5% 1/6W			<u>TRANSISTOR</u>	
R1261	1-247-885-00	CARBON	180K 5% 1/6W	Q1701	8-729-245-83	TRANSISTOR 2SC2458	
R1262	1-247-844-00	CARBON	3.6K 5% 1/6W	Q1702	8-729-204-83	TRANSISTOR 2SA1048GR	
R1263	1-247-893-00	CARBON	390K 5% 1/6W			<u>RESISTOR</u>	
R1288	1-247-848-00	CARBON	5.1K 5% 1/6W	R1701	1-249-421-11	CARBON 2.2K 5% 1/6W	
R1289	1-247-885-00	CARBON	180K 5% 1/6W	R1702	1-247-855-00	CARBON 10K 5% 1/6W	
R1290	1-247-811-00	CARBON	150 5% 1/6W	R1703	1-247-847-00	CARBON 4.7K 5% 1/6W	
R1291	1-247-843-00	CARBON	3.3K 5% 1/6W			<u>CONNECTOR</u>	
R1292	1-247-831-00	CARBON	1K 5% 1/6W	XA1	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
R1293	1-247-844-00	CARBON	3.6K 5% 1/6W			*****	
R1294	1-247-887-00	CARBON	220K 5% 1/6W			*1-613-413-11	Z BOARD
R1295	1-215-421-00	METAL	1K 1% 1/6W			*****	
		<u>VARIABLE RESISTOR</u>				<u>JACK</u>	
RV1101	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K		J001	1-507-806-00	JACK	
RV1102	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K		J002	1-507-940-21	JACK, AV	
RV1103	1-228-720-00	RES, ADJ, CERAMIC CARBON 1K		J003	1-507-940-21	JACK, AV	
RV1104	1-228-722-00	RES, ADJ, CERAMIC CARBON 3.3K				<u>RESISTOR</u>	
RV1106	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K		R001	1-244-851-51	CARBON 120 5% 1/2W	
RV1107	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K		R002	1-244-851-51	CARBON 120 5% 1/2W	
RV1108	1-228-721-00	RES, ADJ, CERAMIC CARBON 2.2K				<u>CONNECTOR</u>	
RV1109	1-228-725-00	RES, ADJ, CERAMIC CARBON 22K		Z1	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P	
RV1110	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K		Z2	*1-564-441-11	PLUG, CONNECTOR (2.5MM) 5P	
		<u>TRANSFORMER</u>		Z3	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
T1101	1-235-386-11	FILTER, BAND PASS		Z4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P	
T1102	1-235-387-11	FILTER, BAND PASS				*****	
T1103	1-235-400-11	FILTER, LOW PASS (L.P.F)				<u>MISCELLANEOUS</u>	
T1104	1-231-726-00	FILTER, LOWPASS				*****	
T1105	1-231-726-00	FILTER, LOWPASS		A.1-230-212-11	RESISTOR ASSY, HIGH-VOLTAGE		
		<u>CONNECTOR</u>		A.1-417-125-11	SELECTOR, ANTENNA		
X1	*1-564-353-00	PLUG, CONNECTOR (2.5MM) 2P		A.1-451-255-11	DEFLECTION YOKE (SY-164)		
X2	*1-564-354-00	PLUG, CONNECTOR (2.5MM) 3P		1-452-032-00	MAGNET, DISK; 10MM Ø		
X3	*1-508-765-00	3P PLUG (M)		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø		
X4	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P					
X5	*1-564-442-11	PLUG, CONNECTOR (2.5MM) 6P		1-452-146-21	MAGNET, BMC		
X6	*1-564-443-11	PLUG, CONNECTOR (2.5MM) 7P		A.1-452-315-21	CRT NECK ASSY (NA303)		
X7	*1-564-440-11	PLUG, CONNECTOR (2.5MM) 4P		*1-557-056-00	CABLE, P-P		
		*****		A.1-557-761-11	CORD, POWER		
		*1-614-651-11	XA BOARD	L906	A.1-426-059-31	COIL, DEGAUSSING	

		<u>CAPACITOR</u>					
C1701	1-102-116-00	CERAMIC	680PF 10% 50V				
C1702	1-102-117-00	CERAMIC	820PF 10% 50V				
C1703	1-123-356-00	ELECT	10MF 20% 16V				
C1704	1-123-356-00	ELECT	10MF 20% 16V				

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

KV-25XBR
RM-724/APM-X3U

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
L907	<u>A</u> 1-426-059-31	COIL, DEGAUSSING	
T901	<u>A</u> 1-439-339-12	TRANSFORMER ASSY, FLYBACK	
Y901	<u>A</u> 8-736-651-05	CRT (A64JKJ10X)	

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
A-1470-681-A	COMMANDER ASSY(RM-724)	
1-513-379-00	CONVERTER (EAC-25)	
4-337-844-00	BAG, PROTECTION	
4-374-194-01	CUSHION (UPPER) (ASSY)	
4-374-195-01	CUSHION (LOWER) (ASSY)	
4-374-402-01	SHEET, CORRUGATED FIBERBOARD	
4-482-023-21	MANUAL, INSTRUCTION	
4-491-213-22	INSTRUCTION	
4-374-321-01	INDIVIDUAL CARTON (FOR BEIGE)	
4-374-324-01	INDIVIDUAL CARTON (FOR PLUM)	

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

SONY
TRINITRON® COLOR TV
KV-25XBR/RM-724


US Model


Chassis No. SCC-595B-A

WARNING !!







AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.



SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

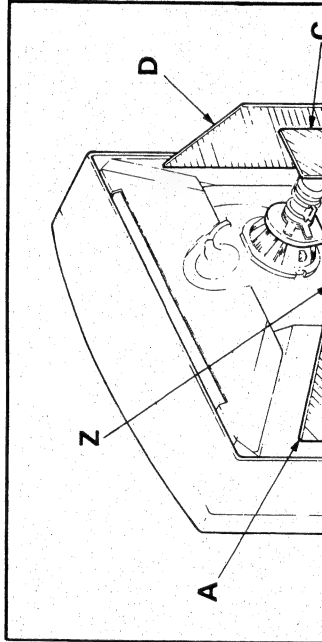
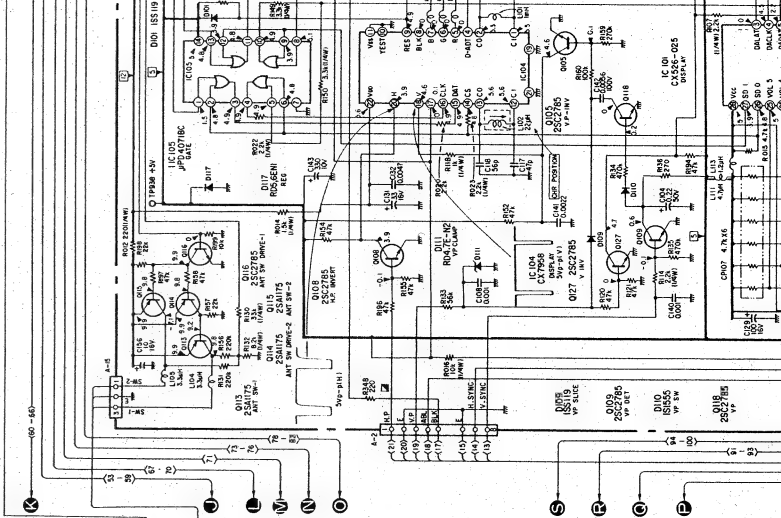
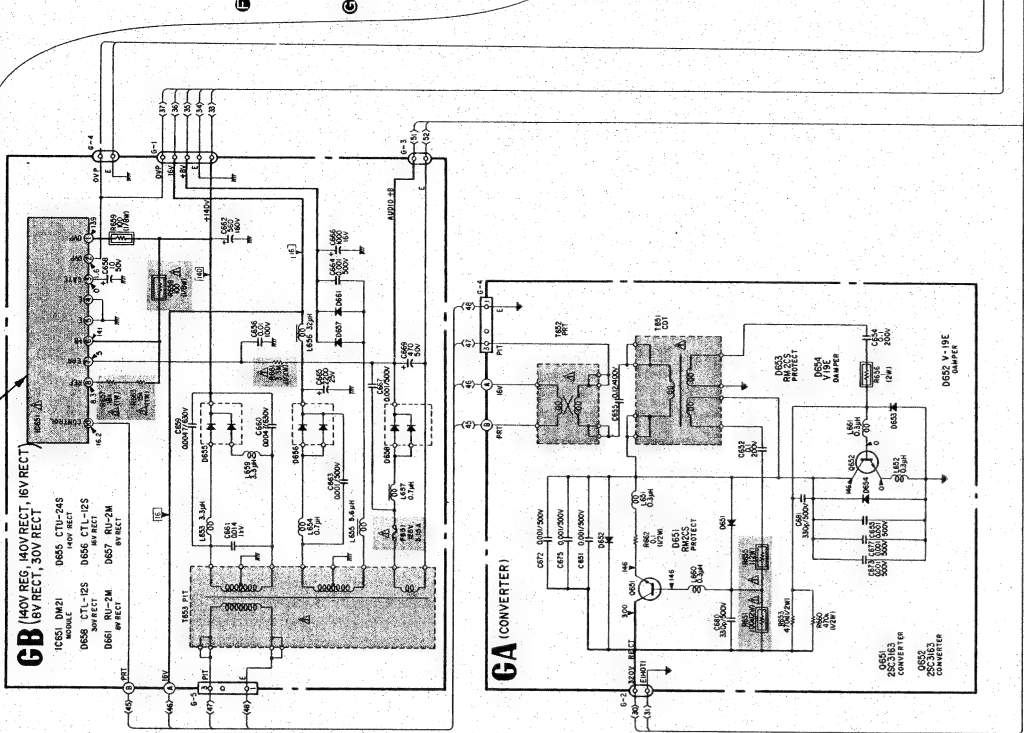
Note:

- All Capacitors are in μF unless otherwise noted, μF : μF
- 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms. 1/6W unless otherwise noted. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- Standard for the M Board is 1/4W:
-  : nonflammable resistor.
-  : internal component.
-  : panel designation.
- All variable and adjustable resistors have characteristics curve B, unless otherwise noted.
- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by  mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved. (Refer to R1531, R1534, R1535, R1556, R1578 adjustment on page 29.)
- When replacing the part in below table, be sure to perform the related adjustment.

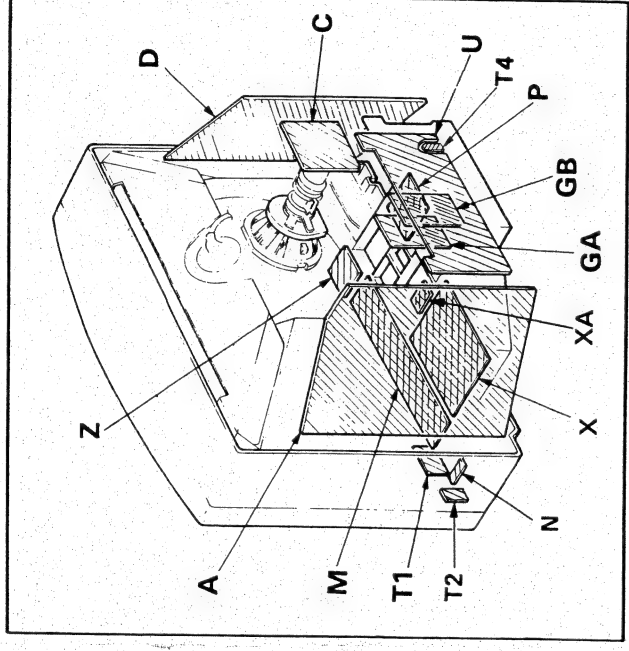
Part replaced ()	Adjustment ()
D1502, D1507, IC1501 Q1502, Q1503, R427 R431, R437, R438 R1512, R1519, R1529 R1530, R1531, R1532 R1533, R1543, R1544 R1545	R1531
D1508, D1509, IC301 IC401, Q1506, R339 R340, R348, R436 R1534, R1535, R1537 R1538, R1539, R1561 R1576	R1534, R1535
C1663, C1664, C1667 C1675, IC1502, L1514 R1556, R1570, R1635 R1636, R1638, RV1511 FBT, DY	R1556
C1519, C1663, C1664 C1667, C1675, IC1501 L1514, R1522, R1578 R1579, R1580, R1581 R1582, R1583, RV1503 FBT, DY	R1578

CAUTION
When replacing C651, be sure to check the test point voltage value (TP31). Refer to the Safety Adjustments Section.

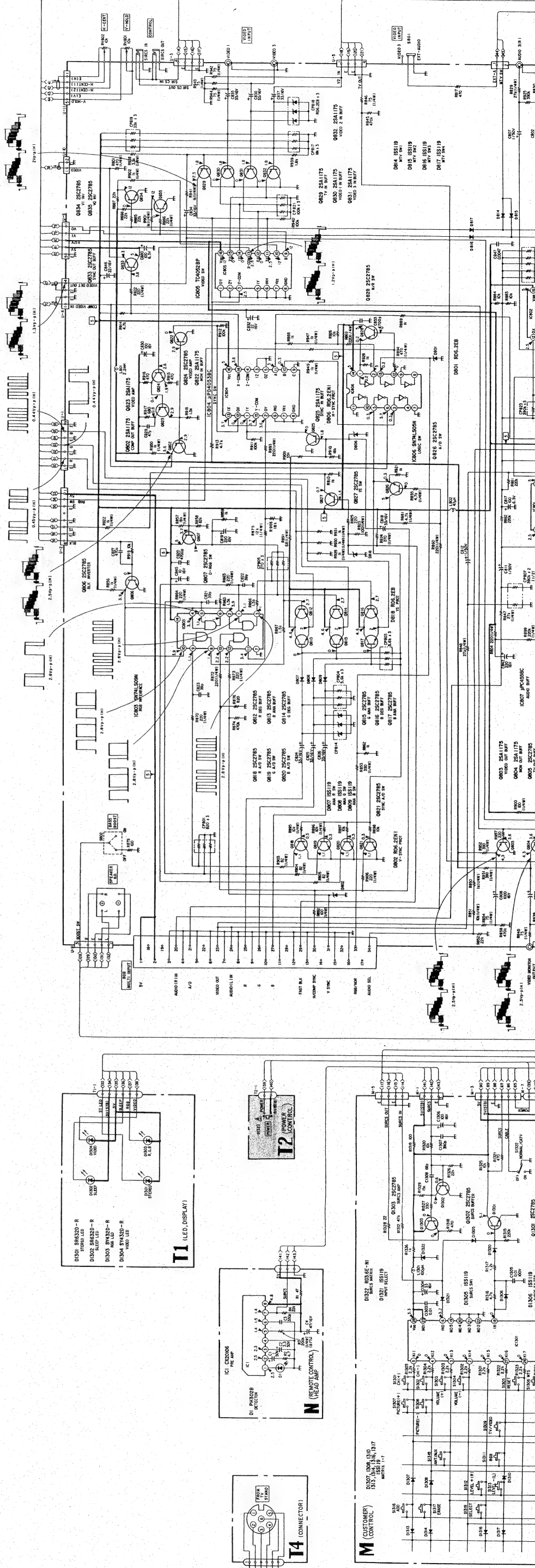
CAUTION
This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.



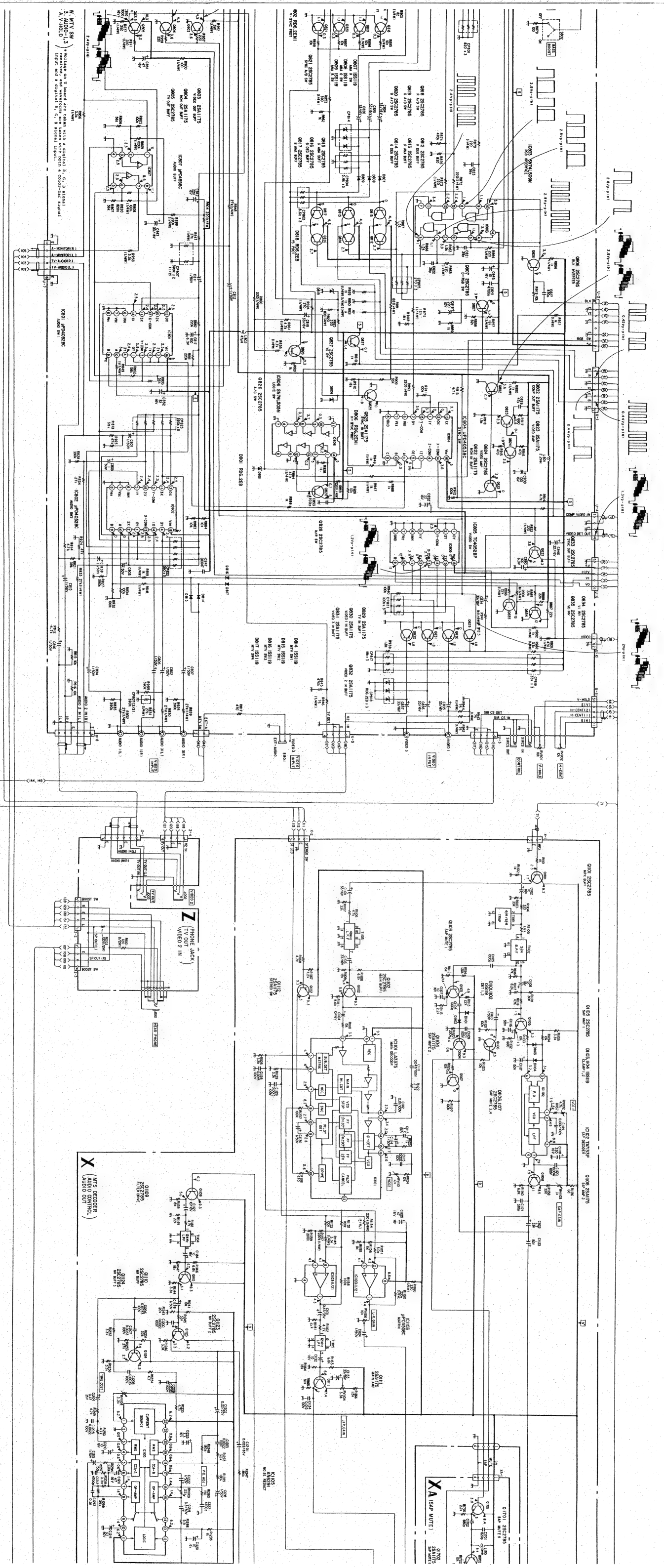
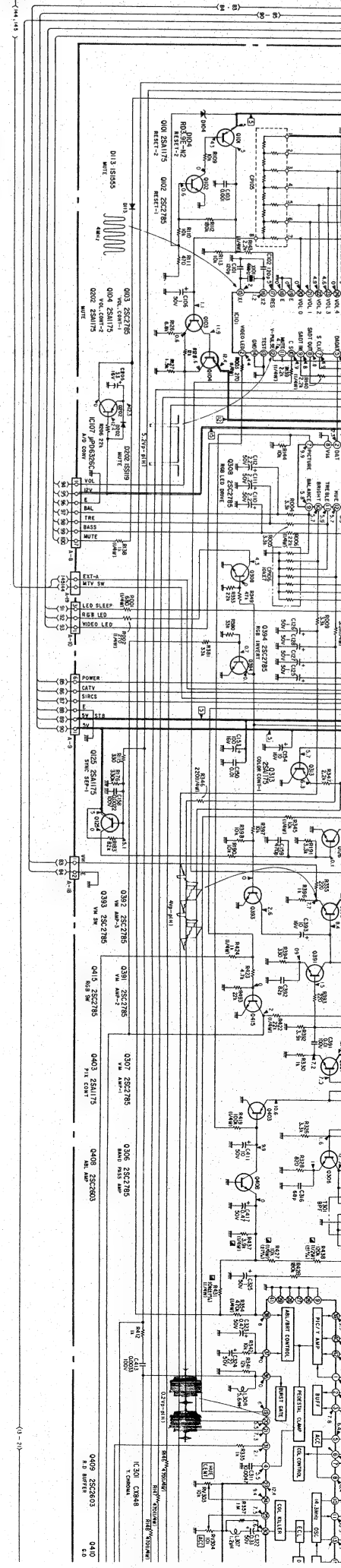
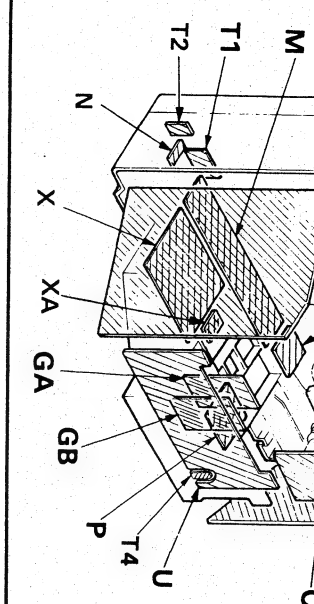
R1576	R1556	R1578
C1663, C1664, C1667 C1675, IC1502, L1514 R1556, R1570, R1635 R1636, R1638, RV1511 FBT, DY		
C1519, C1663, C1664 C1667, C1675, IC1501 L1514, R1522, R1578 R1579, R1580, R1581 R1582, R1583, RV1503 FBT, DY		



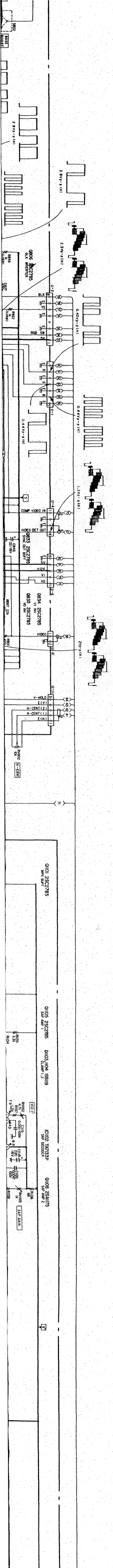
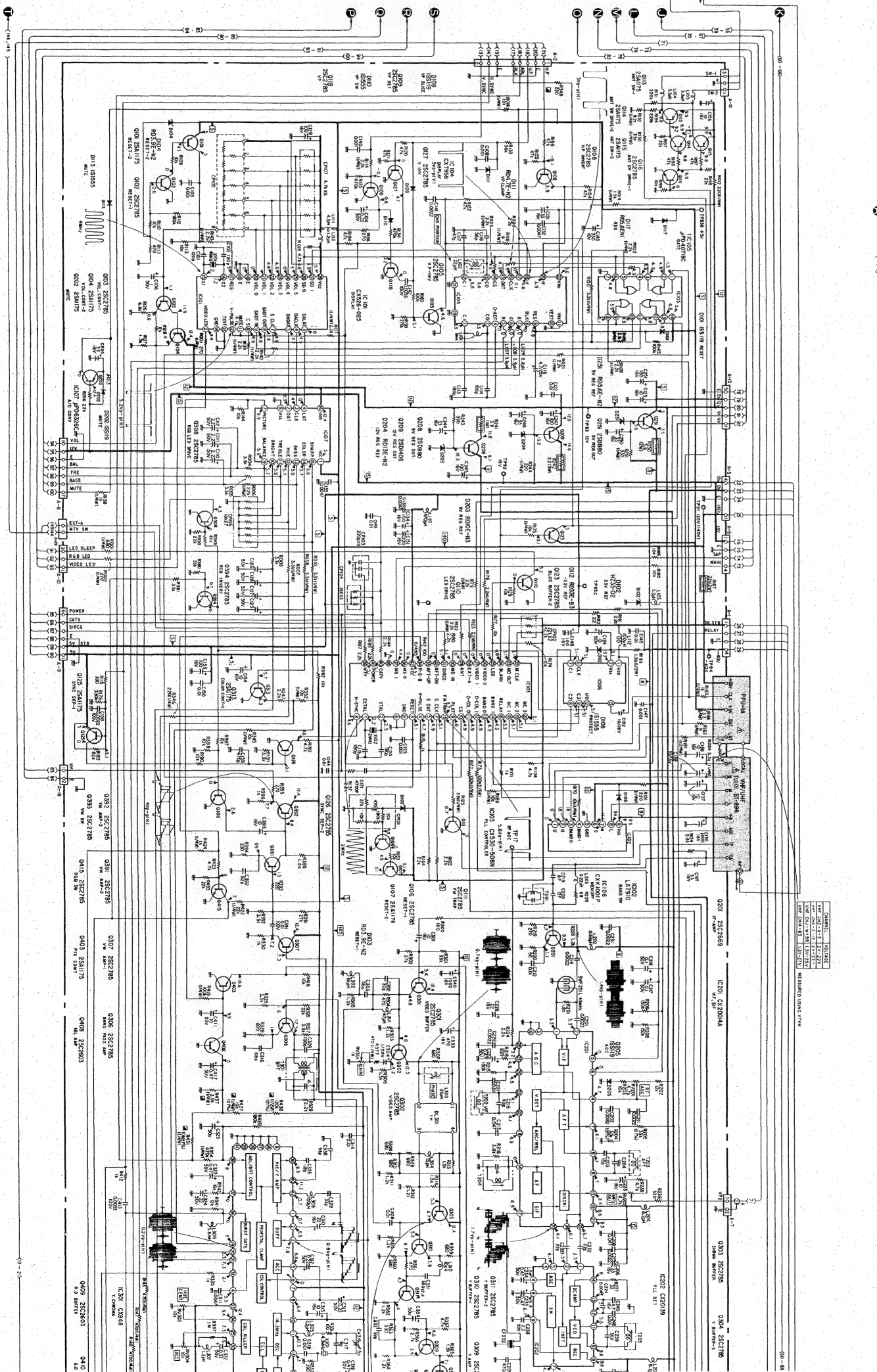
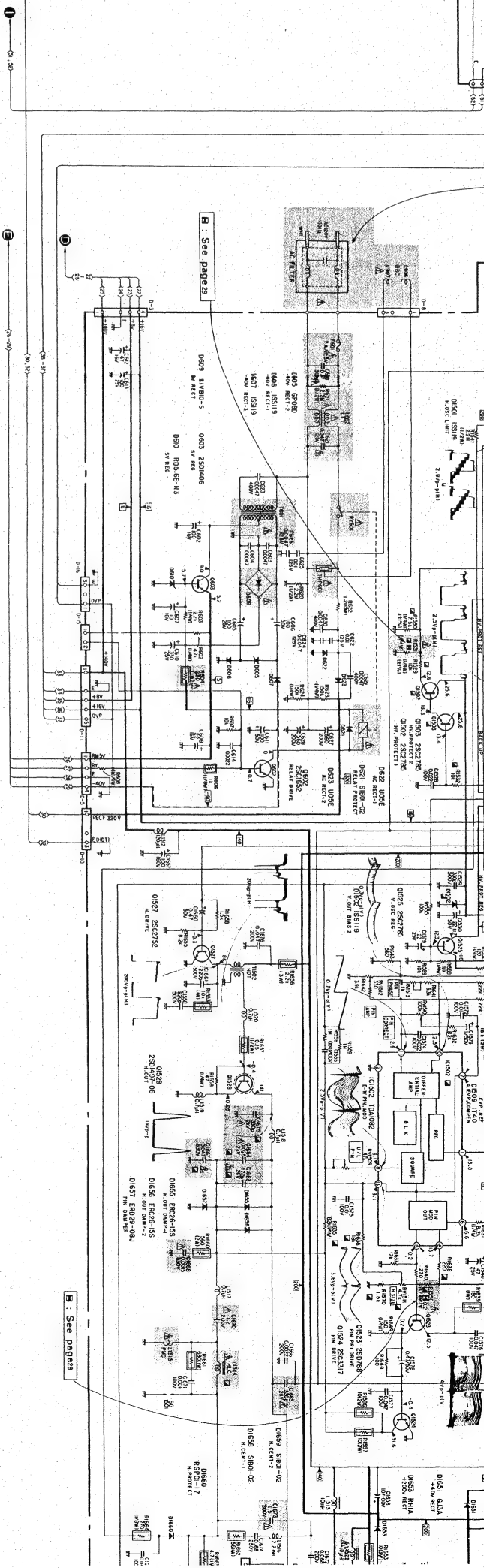
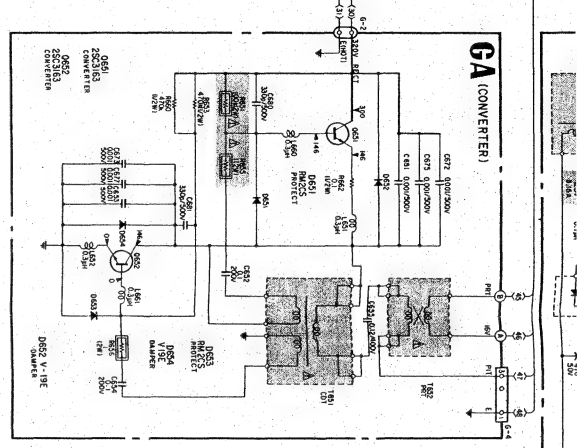
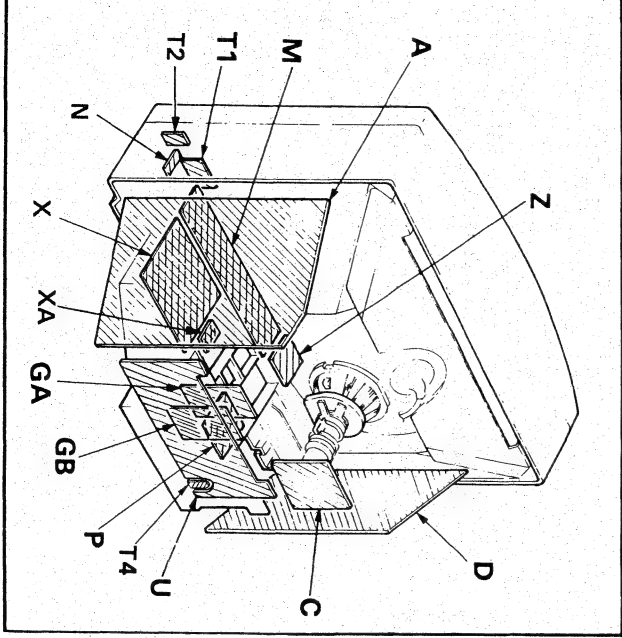
SCHEMATIC DIAGRAM







9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

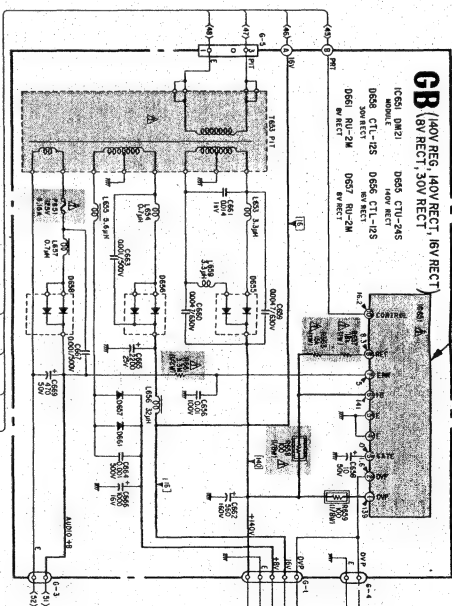


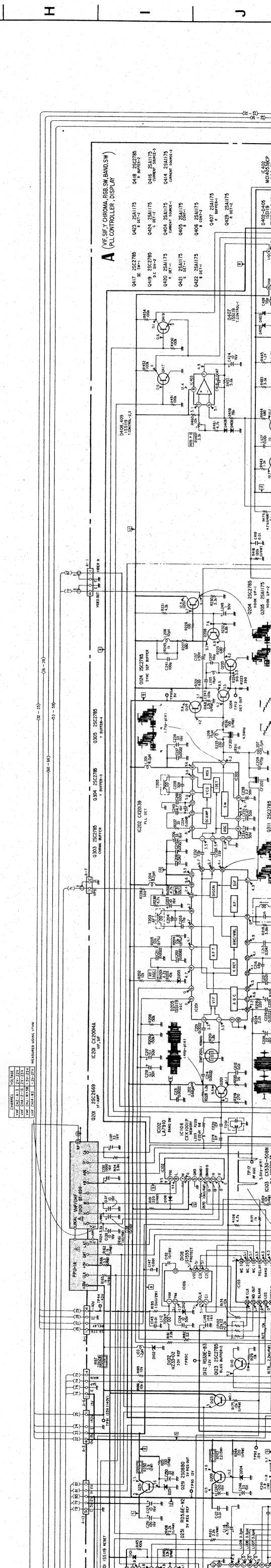
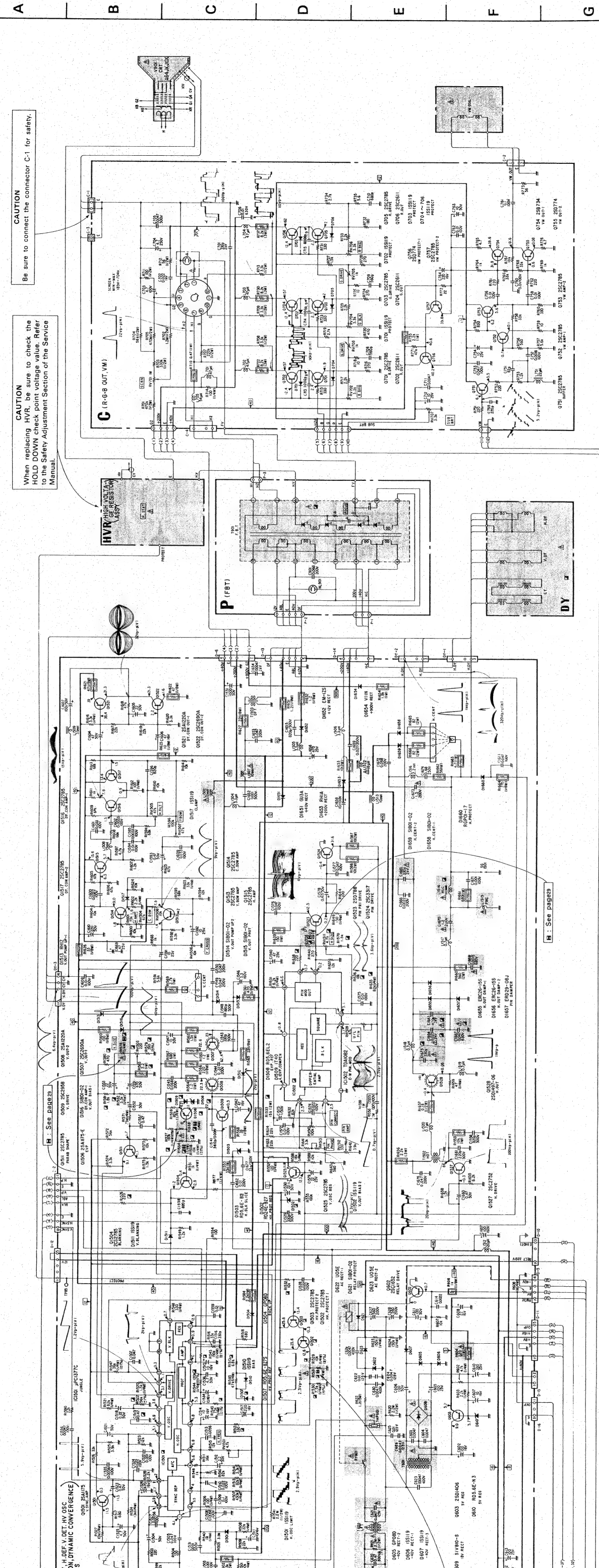
CAUTION

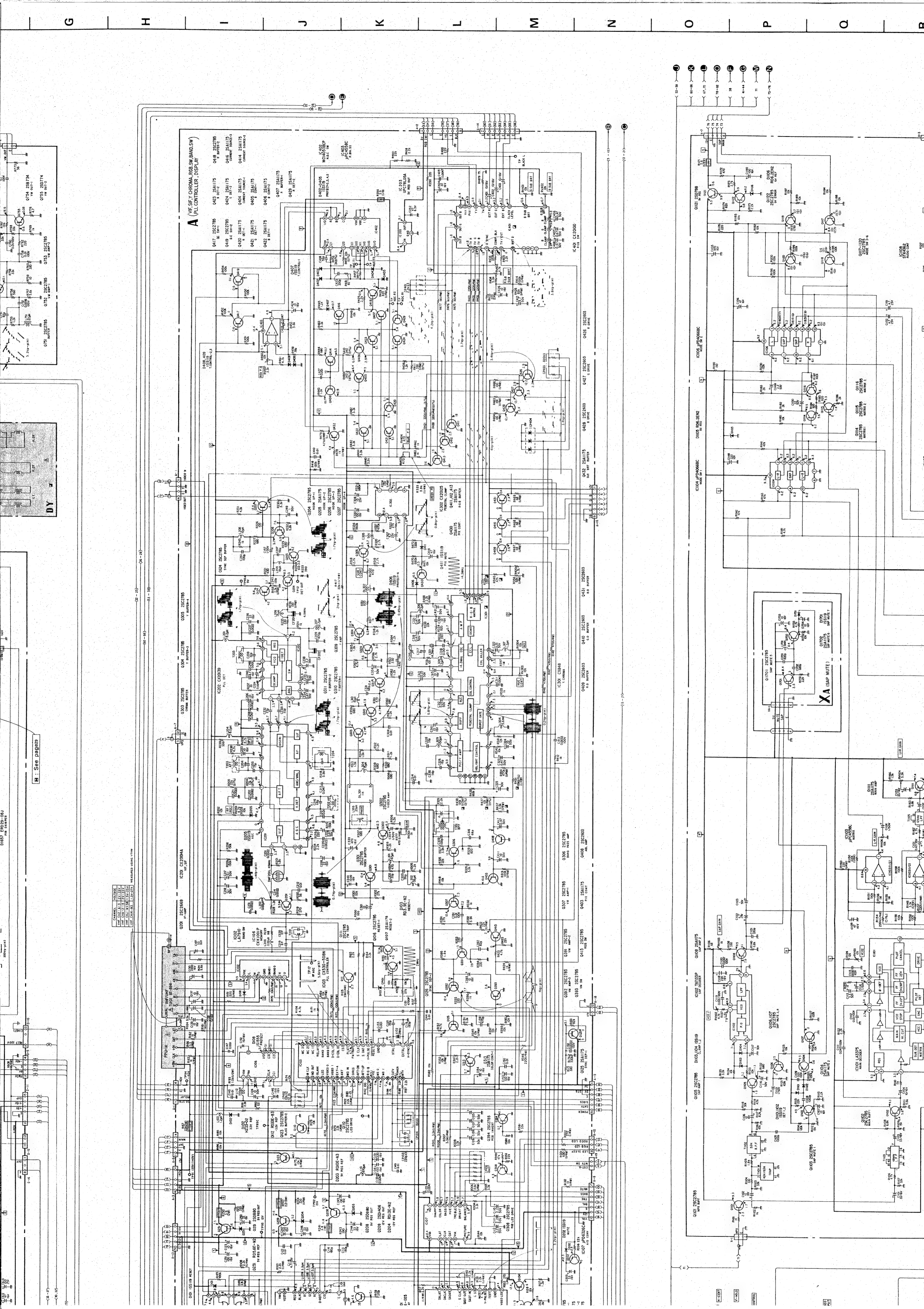
When replacing (C65), be sure to check the test point voltage value (T791). Refer to the Safety Adjustments Section.

CAUTION

This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

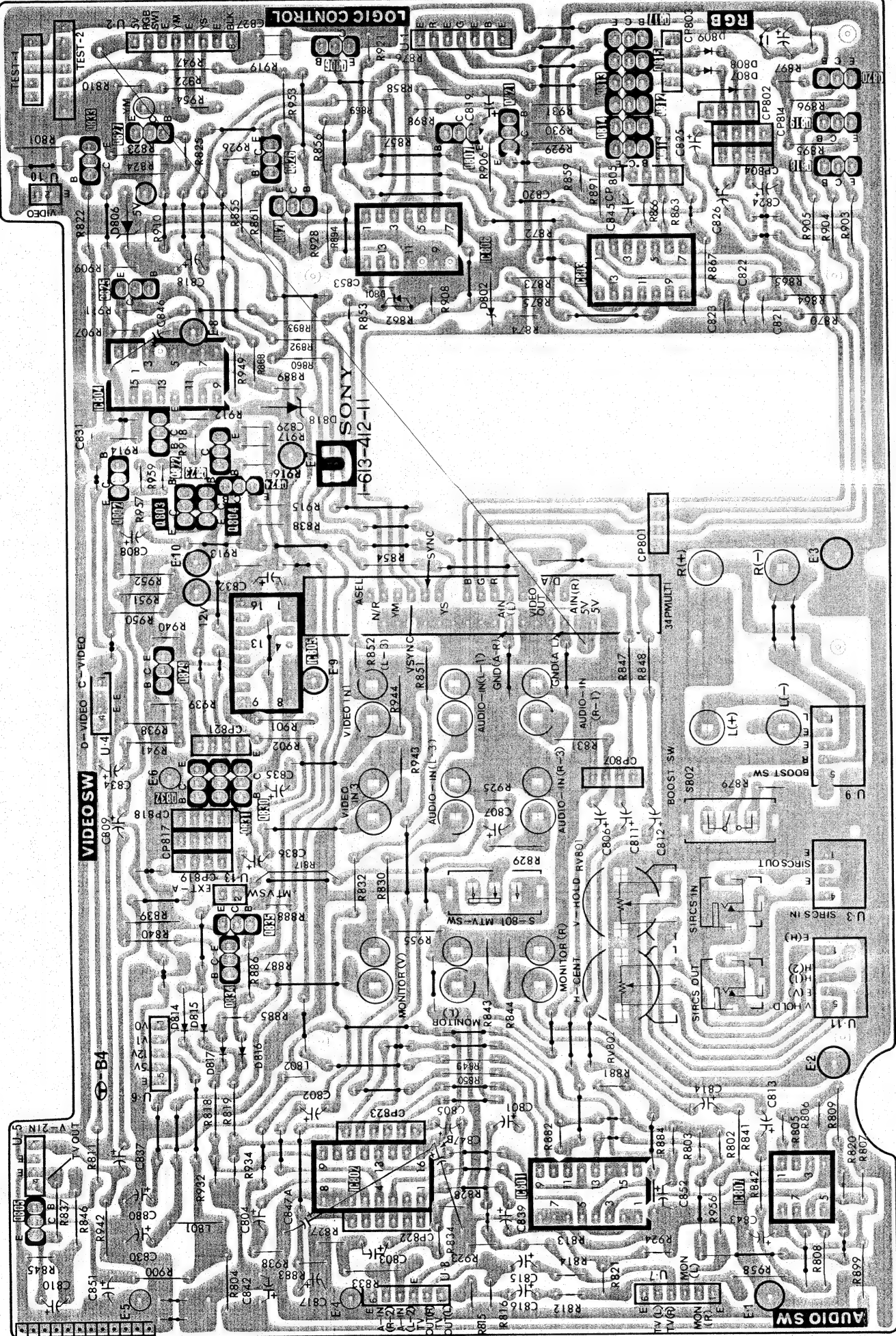






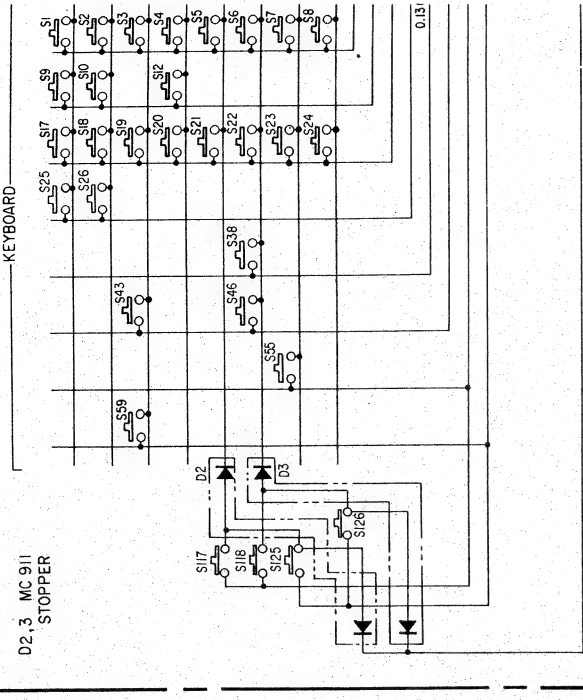
U

VIDEO SW, AUDIO SW, MTV SW RGB 34PIN,
VIDEO-1,3, AUDIO-1,3, MONITOR V, MONITOR A,
V-HOLD, H-CENT



REMOTE COMMANDER RM-724

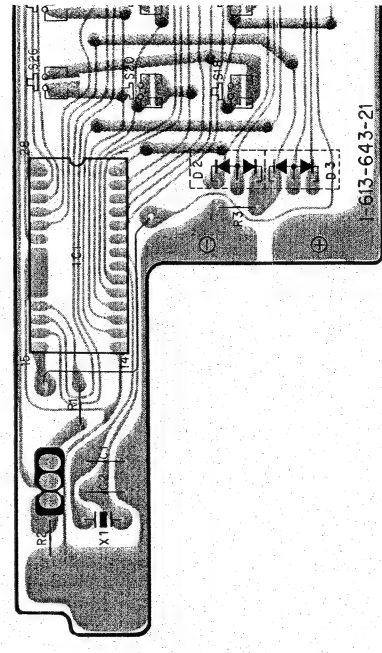
D2,3 MC 911
STOPPER



KEY MATRIX TABLE

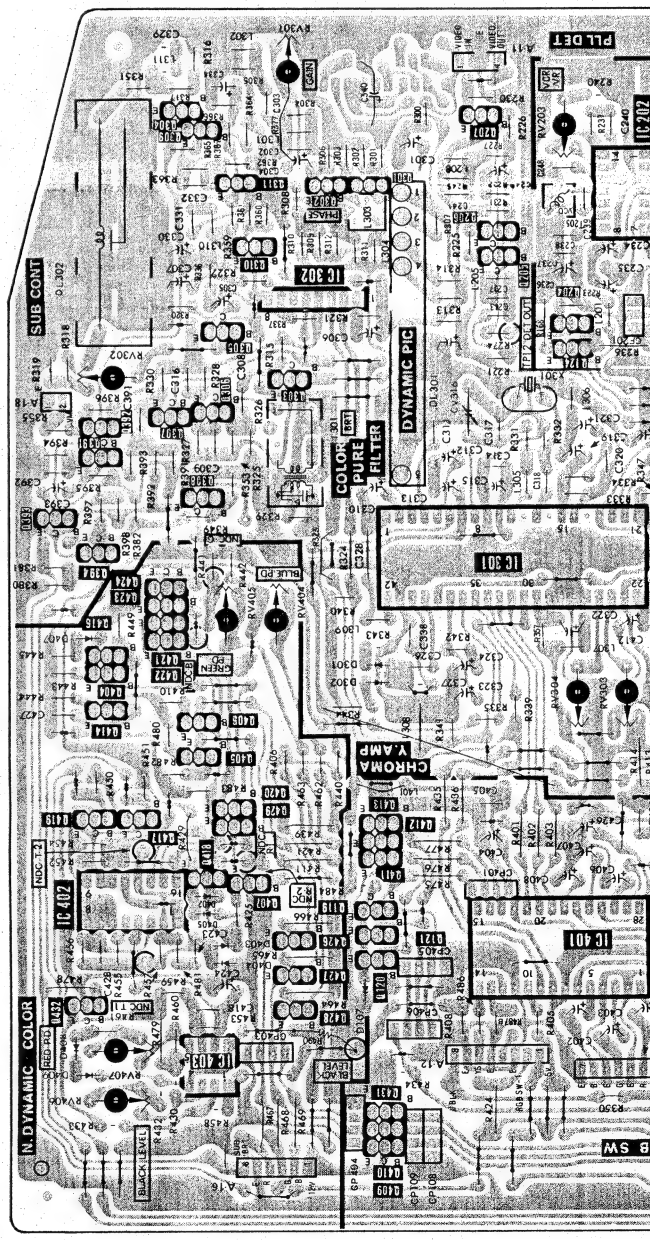
K01	K02	K03	K04	K05	K06
K11 S1	S9	S17 CH +	S25 PICTURE +	S33	S41
K12 S2	S10	S18 CH -	S26 PICTURE -	S34	S42
K13 S3	S11	S19 VOL +	S27	S35	S43 AN
K14 S4	S12	S20 VOL -	S28	S36	S44
K15 S5	S13	S21 MUTE	S29	S37	S45
K16 S6	S14	S22 POWER	S30	S38 TV/VIDEO	S46 R G
K17 S7	S15	S23 RESET	S31	S39	S47
K18 S8	S16	S24 MTS	S32	S40	S48

RC



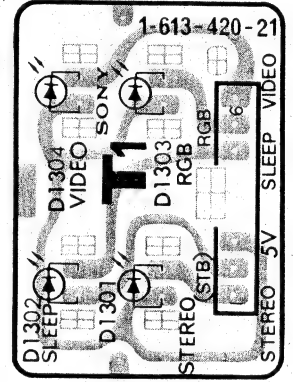
A

VIF, SIF, Y CHROMA, RGB, SW, BAND, SW
PLL CONTROLLER, DISPLAY



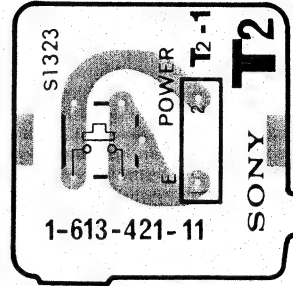
T1

[LED, DISPLAY]



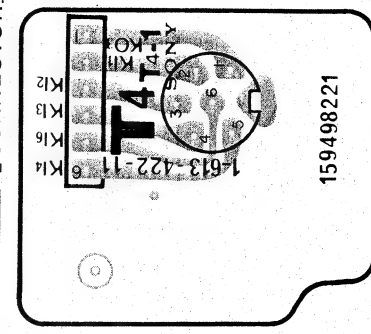
T2

[POWER CONTROL]



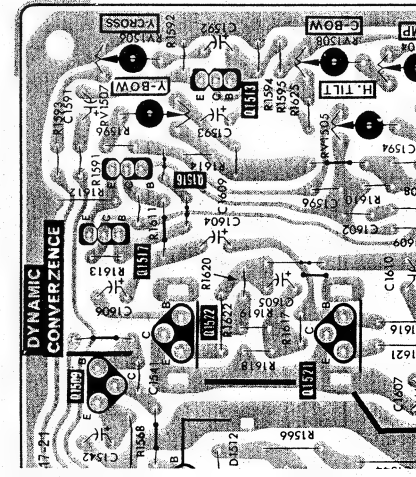
T4

[CONNECTOR]

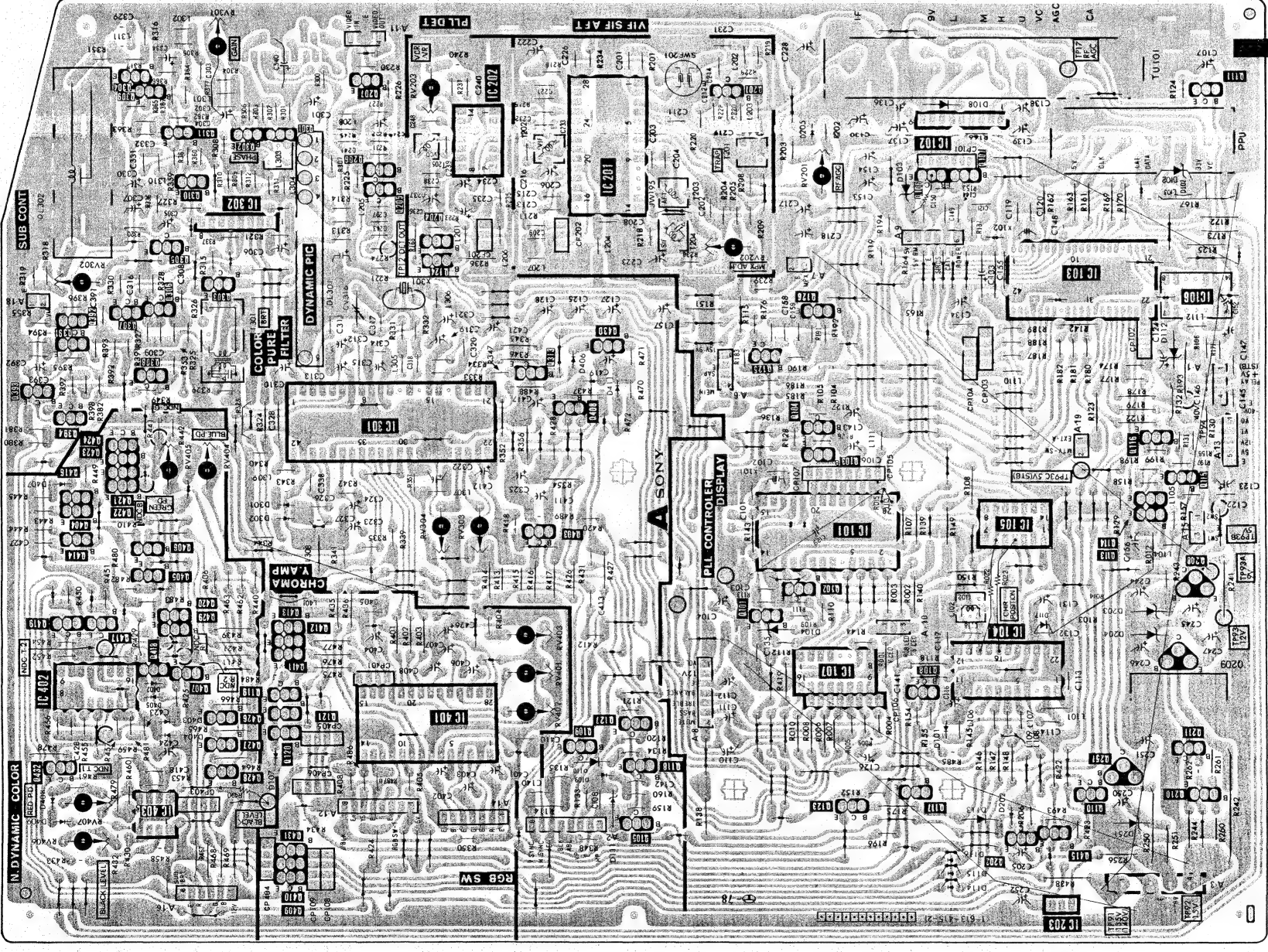


C

[R-G-B OUT, VM]

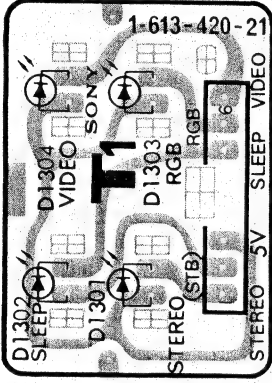


A [VIF, SIF, Y CHROMA, RGB, SW, BAND, SW]
[PLL CONTROLLER, DISPLAY]



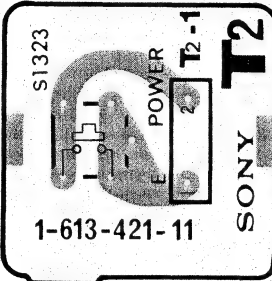
T1

[LED, DISPLAY]



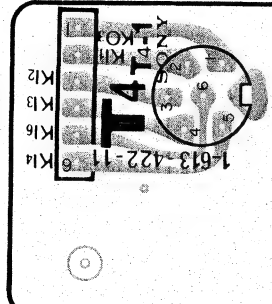
T2

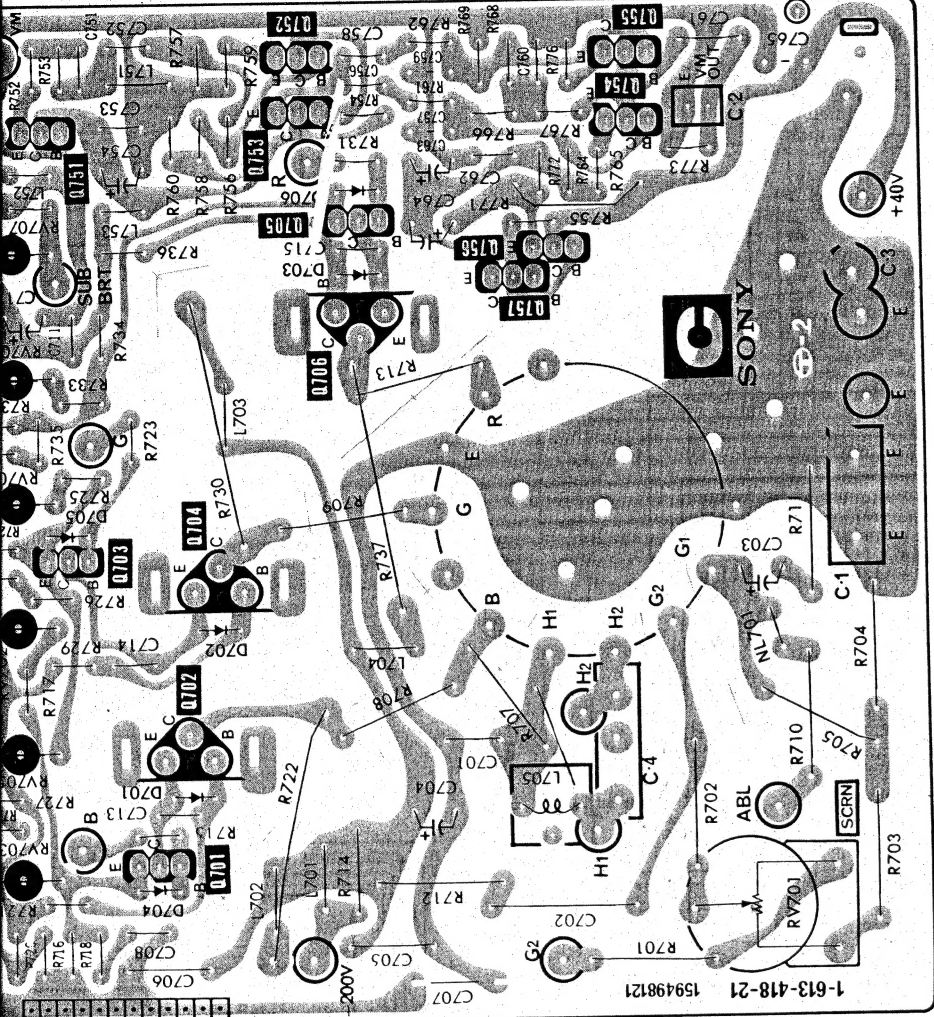
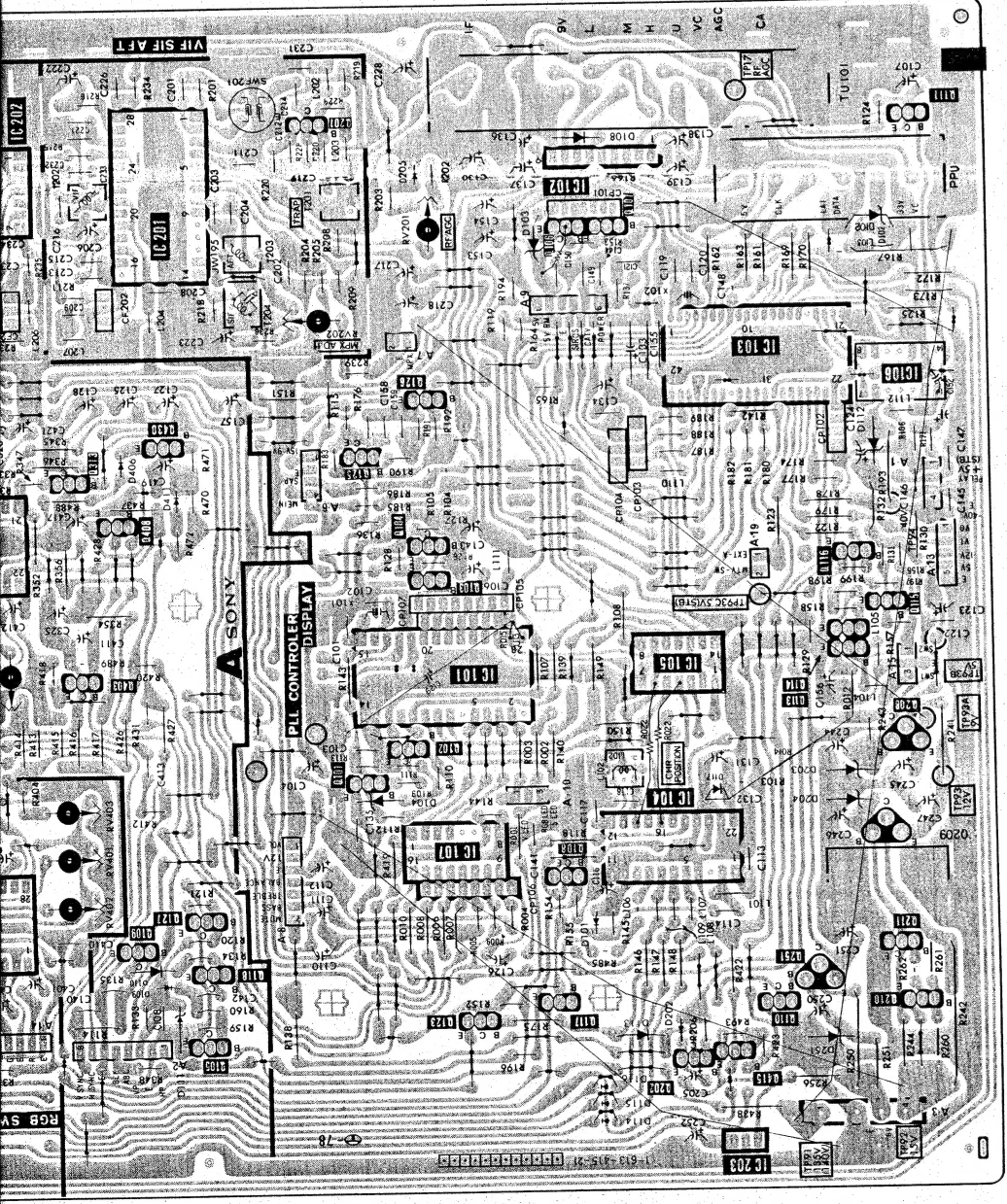
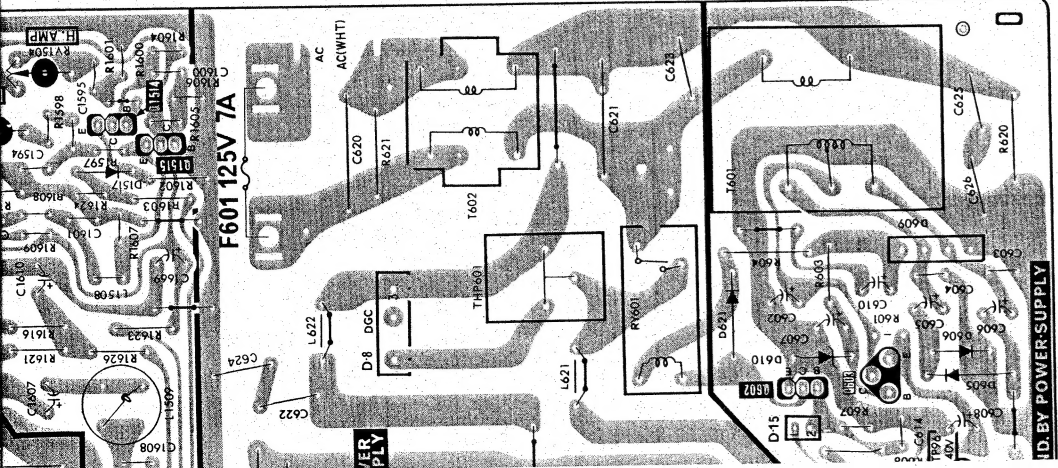
[POWER CONTROL]



T4

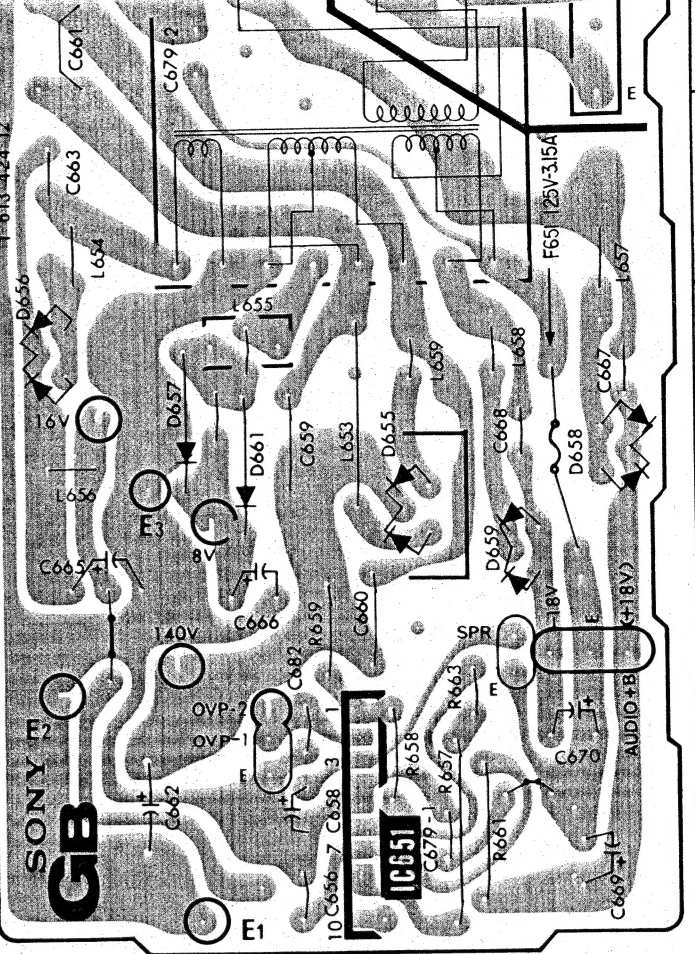
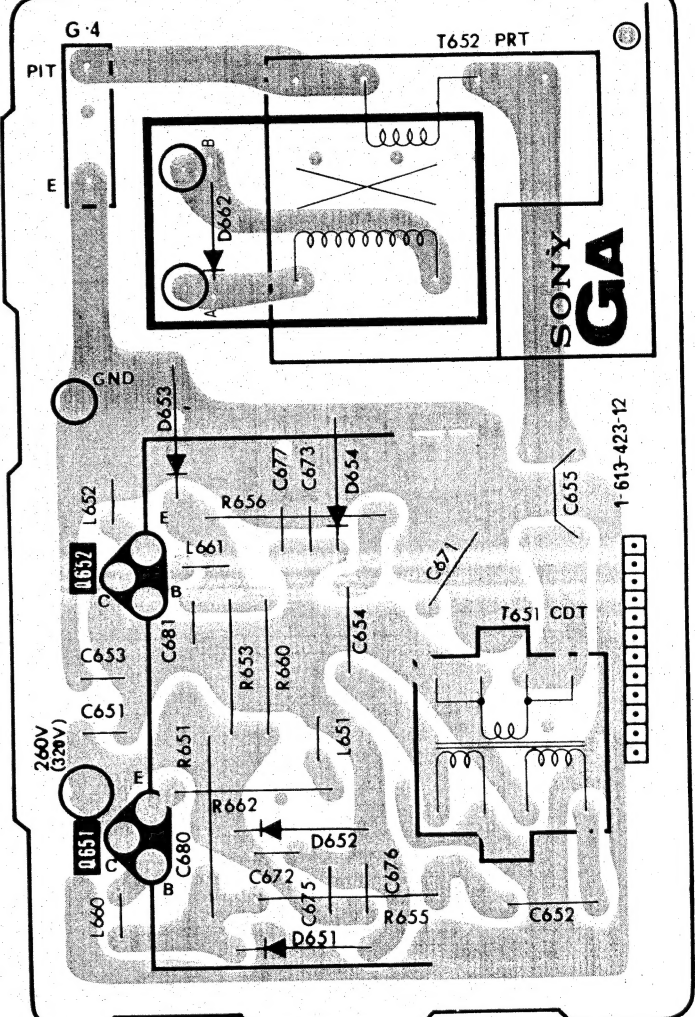
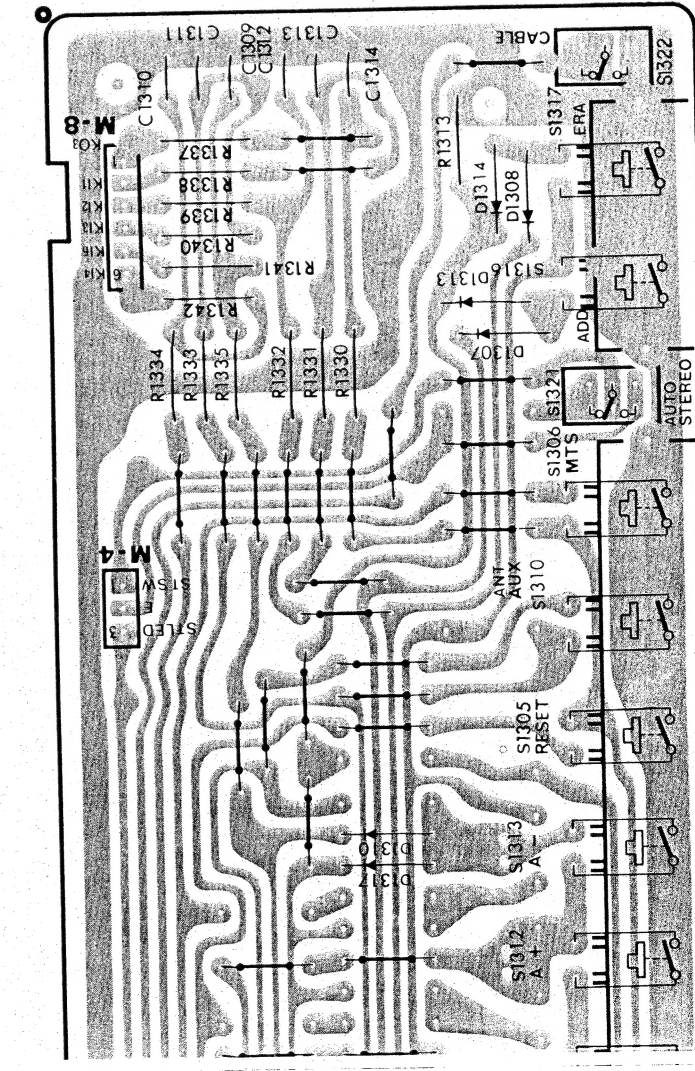
[CONNECTOR]





GA

[CONVERTER]



GB

[140V REG, 140V RECT, 16V RECT]
[8V RECT, 30V RECT]

9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

